the NORTHWESTERN MILLER

THE INTERNATIONAL NEWS MAGAZINE FOR THE GRAIN, MILLING AND BAKING INDUSTRIES

INSIDE YOU'LL FIND . . .

Closed Circuit TV for Commodity Exchanges . . . how it operates

AACC and Its Role in Civil Defense

MILLING TECHNOLOGY FEATURES

Chemistry of Cereal Grains

'Kill the Khapra Beetle'

Fractionation of Omar-Brevor Wheat

Maple Leaf Milling Co.'s mammoth mill at Port Colborne, Ont., Canada, blazes to destruction

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Volume 264 OCTOBER 17, 1960 Number 8

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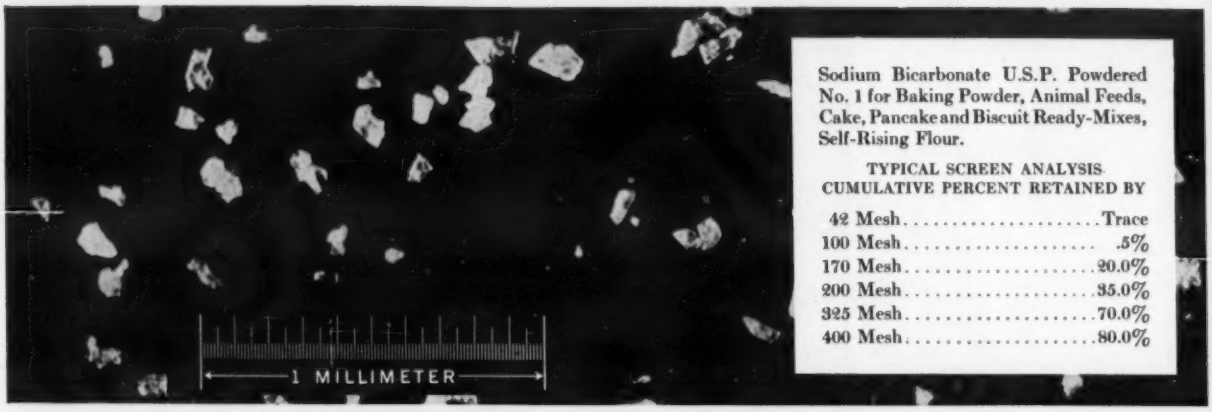
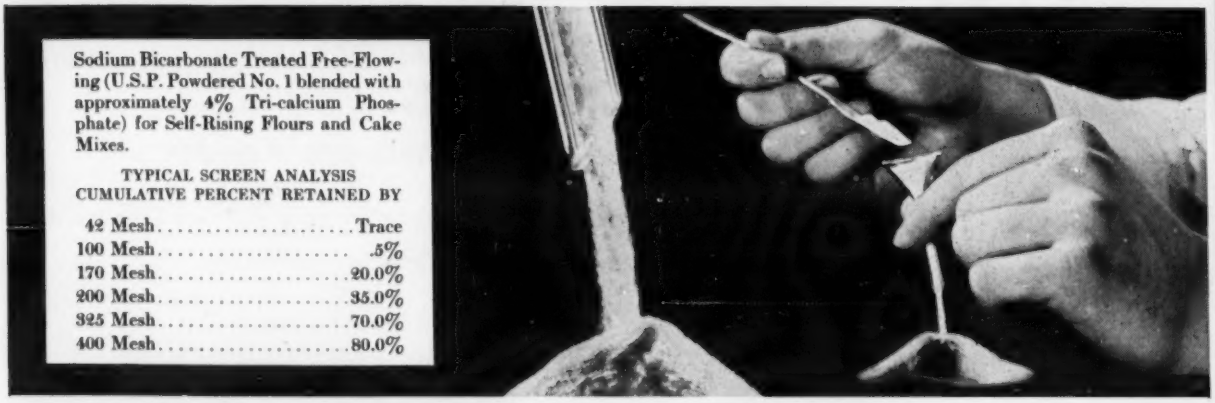


Sodium Bicarbonate U.S.P. Powdered No. 1 for Baking Powder, Animal Feeds, Cake, Pancake and Biscuit Ready-Mixes, Self-Rising Flour.

TYPICAL SCREEN ANALYSIS
CUMULATIVE PERCENT RETAINED BY

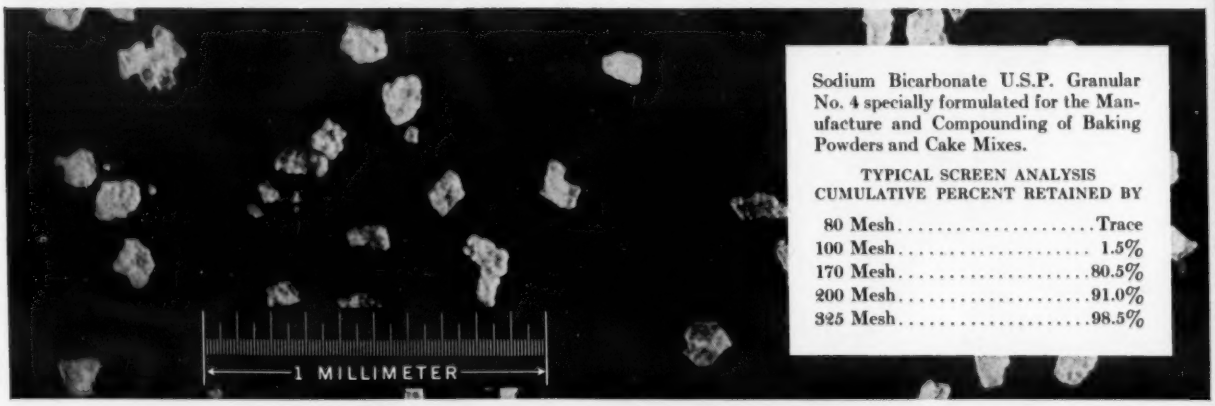
42 Mesh	Trace
100 Mesh	.5%
170 Mesh	20.0%
200 Mesh	35.0%
325 Mesh	70.0%
400 Mesh	80.0%



Sodium Bicarbonate Treated Free-Flowing (U.S.P. Powdered No. 1 blended with approximately 4% Tri-calcium Phosphate) for Self-Rising Flours and Cake Mixes.

TYPICAL SCREEN ANALYSIS
CUMULATIVE PERCENT RETAINED BY

42 Mesh	Trace
100 Mesh	.5%
170 Mesh	20.0%
200 Mesh	35.0%
325 Mesh	70.0%
400 Mesh	80.0%



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TYPICAL SCREEN ANALYSIS
CUMULATIVE PERCENT RETAINED BY

80 Mesh	Trace
100 Mesh	1.5%
170 Mesh	80.5%
200 Mesh	91.0%
325 Mesh	98.5%

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the NORTHWESTERN MILLER

Published Every Other Week for the Grain, Flour and Baking Industries

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COVER PICTURE—

The cover picture and the pictures on page 64 of the Maple Leaf Milling Co., Ltd., fire at Port Colborne were taken by Jimmy Simpson, photographer, St. Catherines, Ont.

FOR POSITIVE

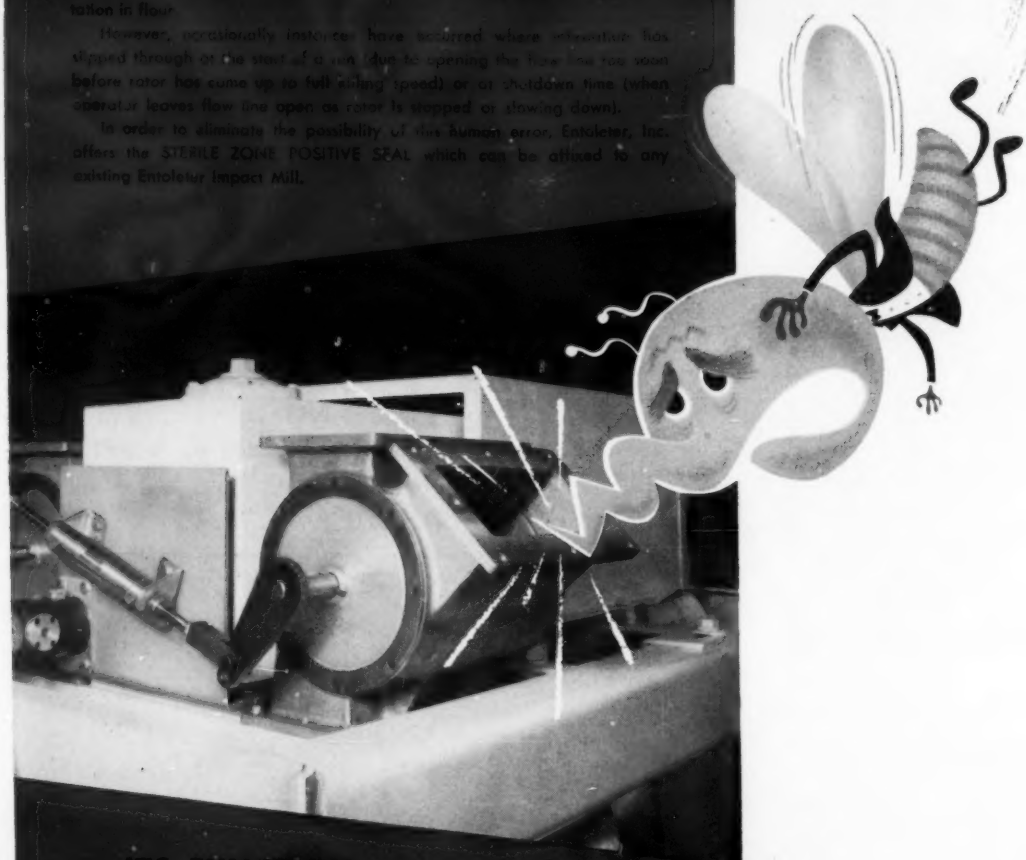
"Sterile Zone"

INFESTATION CONTROL

For years the Entoleter Impact Mill has been recognized as the positive method for insuring complete freedom from live insect, larva or egg infestation in flour.

However, occasionally instances have occurred where infestation has slipped through at the start of a run (due to opening the flow line too soon before rotor has come up to full rating speed) or at shutdown time (when operator leaves flow line open as rotor is stopped or slowing down).

In order to eliminate the possibility of this human error, Entoleter, Inc. offers the STERILE ZONE POSITIVE SEAL which can be utilized in any existing Entoleter Impact Mill.



ITS FUNCTION

The STERILE ZONE POSITIVE SEAL automatically opens the flow line to the machine only when rotor speed reaches 100% efficiency and closes the line completely before the rotor speed is reduced below this point. This foolproof control eliminates any possibility of contamination of the STERILE ZONE product.

Bakers today demand a sterile product . . . Entoleter Infestation Control equipment assures it. Write to Entoleter for further information on the Entoleter Impact Mill and STERILE ZONE POSITIVE SEAL.

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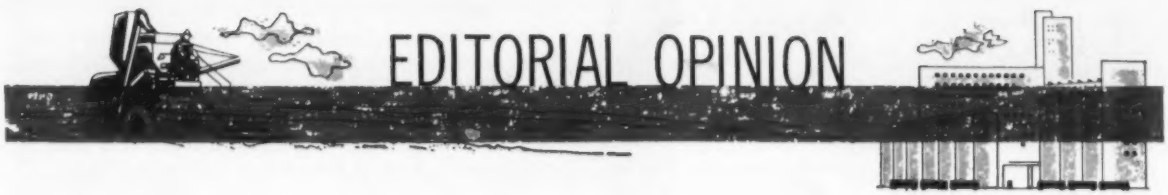


Political Farm Programs

Sen. Kennedy's Proposal Would Raise Retail Prices; Vice President Nixon's Unclear

IT IS A FAIR assumption that hardened election campaign managers invariably warn their candidates never to allow themselves to be pinned down to specifics. The unwritten political credo is that any program, any policy propounded before the electorate must be devised in such a manner that no one can run round behind and tear the program or policy to shreds by exposing the cold, stark facts.

But if the facts are exposed, as they sometimes are, then the candidate must be an adept at wriggling. Watch, then, for Sen. John F. Kennedy wriggling like an Egyptian belly dancer in the next few weeks.

In telling the farmers what he proposes to do for them, if elected, Sen. Kennedy slipped right in the manure pile. A farm program seemingly lacking in specifics has been exposed for what it is—a price raising formula.

Briefly, the Kennedy farm plan would push up the basic support price, in itself sufficient to bring many supporters of the discredited farm bloc rushing to his banner. But in order to attain the desired level, it would be necessary to restrain production drastically and substantially to achieve a significant decrease in the offtake from the land. It is here that the political credo has been obeyed because the techniques to be employed have not been specified.

Perhaps the Kennedy program contemplates Brannan Plan-type payments for farm crops, at least for the basic crops. This would operate between the market price and the suggested income parity payment levels.

However, what is clear is that the end result of the program would be a substantial advance in retail food prices.

For an analysis of the situation, the reader is recommended to turn to page 14 of this issue where John Cipperly shows how the prices of flour, cereal foods, prepared mixes and even TV dinners could rocket if the Democratic program is adopted.

Mr. Cipperly's thesis is not based on imagination or conjecture. The figures are backed by official, but unpublished, documents in Washington and have the support of economists in the U.S. Department of Agriculture.

But if Mr. Kennedy has made the "mistake" of being too specific, he is more than offset by his rival candidate, Vice President Richard M. Nixon, who has not got anywhere near being specific. The "new" Republican farm policy is not clear enough to warrant even the smallest assumption other than that "we intend to do something about the farm problem."

All Mr. Nixon offers is a variant of the Benson plan which would curtail the production of basic crops now in surplus supply by inducing the producers of those crops to reduce acreage and to obtain payment for the reductions in the form of payment-in-kind per acre from Commodity Credit Corp. stocks.

He suggests a big cutback in production through an expanded soil bank and a vigorous Food-for-Peace program, plus other unspecified overseas disbursements or deliveries. Could be that in this area it might come Mr. Nixon's turn to wriggle.

There are critics of this program, too. But there is practically nothing he can be nailed on if and when his turn comes to put his ideas into practice in the White House.

It is agreed that the soil conservation program has a wide following among some farm communities. On the other hand, the retirement of land, even whole farms, generates opposition among businessmen serving rural communities. Land retirement means less customers for the stores, the banks, theatres, taverns and other amenities.

Yet the Nixon program—as unspecific as it is—does not appear to have such a drastic impact on farm commodity prices, on the grain and flour trades, domestic and export, and the baking business as does the Kennedy plan.

"Income parity" for farmers is a honeyed phrase, encircled with unspecifics, and the net effect on the cost of the end products must be considered. «

Milling's Hall of Fame

A Tribute to Two Men, Who Died This Month, For Their Contributions to the Flour Business

TWO MEN WHO EXERCISED a great deal of influence on the flour milling industry, each in his own way and in his own country, died within 24 hours of each other at the beginning of this month. Living several thousand miles apart, it is conceivable they never met. It is a pity. They would have had much to say to each other.

One, the American, worked to promote the acceptability of flour products; the other, an Englishman, devoted his energies to improving the means of producing flour. One built on the foundation he laid himself, the other inherited the base but built firmly on it and multiplied it.

The American, H. T. Corson, used initiative and persistence to pave the way for the work which is now being done effectively by the Wheat Flour Institute in the field of promotion and education. And his influence, indeed, stretched across the Atlantic for the British millers studied the work of WFI when they formed their own highly successful and highly efficient Flour Advisory Bureau a few years ago.

The Englishman, Lord Simon of Wythenshawe—he was born plain Ernest Simon—was chairman and subsequently governing director of the Simon group of engineering companies. One component, Henry Simon, Ltd., has supplied some of the machinery now being used to make American flour, the qualities of which Doc Corson extolled.

Mr. Corson's service was beneficial not only to the millers, but also to the bakers and the flour products' industry generally. After a pioneering effort devoted to increasing milk consumption by children in Wichita, Kansas, he conceived the idea of coupling his modest program,

EDITORIAL OPINION

instituted on behalf of the dairymen of Wichita, with similar efforts on behalf of bread.

Initial contributions of $50 a month from some Kansas millers enabled Mr. Corson to undertake an experiment in the possibilities of combating the crackpot dieticians whose attacks on flour foods were hurting the industry. Having not only to do the job but raise the funds to pay the bill, Doc Corson soon had "doctors, editors and school ma'ams fleeing from his persuasions at one end of the line and millers hunting for alibis at the other," as the late Robert Sterling, then editor of The Miller, put it.

There was no escape from his persistence. Whenever two people were gathered together to discuss healthful and economical eating, there appeared Doc Corson with his faith and insistent exposition of it.

Not until the Millers National Federation took notice of Mr. Corson did his organization merit the title of National Food Bureau. In May of 1928 the federation invited him to address the millers in convention assembled and this he did to good purpose. The result of his appearance was the appointment of a committee to study the matter. Heading the committee was Frank J. Allen, now retired from Bay State Milling Co. The Allen enthusiasm added to the Corson persuasion was an unbeatable combination and other millers were equally enthusiastic.

H. T. Corson

In February, 1959, the offices of the bureau were moved to Chicago, as the spring wheat millers of the Northwest joined the campaign and it was then that the bureau was truly national. Later, the Wheat Flour Institute emerged.

Mr. Corson retired in 1940 and lived happily to the age of 89 to see the triumphant progress of WFI particularly under the direction in later years of H. Howard Lampman, executive director. Mr. Corson made his home in Eureka Springs, Ark.

Lord Simon was the son of Henry Simon, who came to England from Germany in 1860. Henry Simon revolutionized flour milling in England by the introduction of the roller mill in the late 1870's and with a plant producing flour milling machinery and a coke oven plant he laid the foundations of the present vast organization.

But it was under Ernest that the organization came to full flower. He was only 20 when his father died in 1899 and for the next decade a "brain" consortium of senior officers ran the firm. By 1910 Ernest was ready to take over and this he did with skill, building many more subsidiary companies in the engineering field. But flour milling machinery held a high place in his esteem and he encouraged the research which has led to the eminence of the Simon name today. He lived to see Simon machinery go into almost every country in the world where wheat is milled into flour.

Lord Simon—he was honored first as Sir Ernest Simon before being elevated to the peerage—was a gifted man with a genius for organization. He did work of national importance for his country and it was for these services he was honored.

A stickler for detail, Lord Simon did not demur from delegating authority to such men as he chose to develop the business—the names of Sir Joseph Lockwood and G. Highley Sugden are known all over the flour milling world. And that is naming only two men from a galaxy of talent which Lord Simon chose and trained. There are many more.

As a qualified civil and mechanical engineer, as an author—The Physical Science of Flour Milling published in 1930—and as a member of the British parliament, Lord Simon occupies a place of honor in the industry's Hall of Fame. And with him is Doc Corson. Their contributions to the art and science of milling and selling flour were invaluable. «

Lord Simon

Port Colborne Disaster

Destruction of Flour Mill Brings Sympathy Of All Millers at Time of Personal Tragedy

THE SYMPATHY OF EVERYBODY engaged in the business of milling flour—management executives, technologists and operatives, front office staff, salesmen and the people who supply the industry with its needs—will go out to those involved in the Port Colborne disaster.

Particularly sad is the loss of one so young as mill worker Louis Barnarva. And to the operatives who were injured in the fire at the Maple Leaf plant will go wishes for a speedy recovery.

All such disasters as this leave tragedies of one degree or another. In the ordinary business of living, the loss of jobs by nearly 350 people is a personal tragedy for the workers themselves, especially in a community as small as Port Colborne.

For the executives of Maple Leaf itself is the tragedy of seeing what they have built up reduced to ashes, though the situation presents them with a challenge. Such is the excellence of the management it is obvious that the challenge is being met head on, as witness the immediate decision to build another mill at Port Colborne and the plans to build at Montreal.

The structure of the Canadian milling industry changed overnight. And as Clifford E. Soward, Maple Leaf president, remarked, the company will emerge stronger than ever. «

The Editor Congratulates . . .

- **Paul McSpadden, Commander Larabee Milling Co., on joining the cult of grandpappism through son Tom—studying YMCA management work—whose wife presented him with a baby girl.**
- **District 4, Association of Operative Millers, for regaining the lead over District 8 as the largest AOM district . . . by half a percentage point. The battle continues.**
- **District 2, AOM, for the record turnout of 130 people at the September meeting. And Dick Danbury, Commander Larabee, for the fine show he produced and the comedy role he played.**

INDUSTRY RECORD . . .

An account of Trade Affairs and Events

United States:

New scholarships in milling technology are coming forth from Kansas State University. Students and firms are: **Jose Cordova,** Tennant & Hoyt Co.; **Robert Dodson Gerardy,** Percy Kent Bag Co.; **Leonard Lugene,** Nebraska Consolidated Mills Co.; **Stephen Joe Lange,** Wichita Flour Mills, Inc.; **Lee Edward Ochs,** Rodney Milling Co., and **Clifford Jay Pappas,** DCA Food Industries, Inc. **Lee Hackett,** who holds an International Milling Co. scholarship, gets the one milling technology scholarship up for renewal.

●

General Baking

Net profit of General Baking Co. expected to dip for first nine months of current year, or considerably lower than the $1,558,300 (67¢ a share) earned in initial nine months of 1959. That's the word from **George L. Morrison,** chairman of the board. Sales for the nine months were slightly less than in the comparable period of last year and the dip in earnings is attributed to this decline, as well as to higher labor costs and added expenses of production interruptions during installation of new equipment. However, Mr. Morrison expects 1960 to be a satisfactory year, even if not one of the company's best. As a sidelight, General is spending upwards of $3 million this year to equip its bakeries with more efficient installations.

●

Wheat Flour Exports

Export department of the Millers National Federation reports U.S. wheat flour outward bound for August at 1,723,930 cwt., exports for foreign relief at 1,327,493 cwt. Biggest buyers in first category were Egypt, 212,437 cwt.; the Netherlands with 117,797 cwt.; the Philippines, 106,825 cwt. and Japan, 105,065 cwt. For the cumulative July-August period exports reached total of 3,266,092, and for foreign relief 2,168,499.

●

Leaving Pillsbury

James L. Rankin, veep and a director of the Pillsbury Co., is leaving the firm. On Nov. 1 he takes over a post as executive vice president of Foremost Dairies, Inc., San Francisco, said to be world's third largest dairy with sales over $440 million in 1959 and operating internationally. His whole business career to date has been with Pillsbury where he rose successively from advertising manager to sales manager and vice president of the grocery products division, achieving a director's chair in 1958. Most recently he handled industrial personnel, public and trade relations. No successor named to date by Pillsbury.

●

Canada:

Outstanding speakers, that's the attraction promised for the Nov. 4-5 conference of District 13, Association of Operative Millers, scheduled for the Pallister Hotel in Calgary. **Frank R. Ofner,** Industrial Processes, Inc., will speak on "Industrial Drying"; **Jack Houston,** Wallace & Tiernan, Inc., will present W. & T.'s new "Do-Maker" film and **Hans Traber,** Buhler Mill Engineering, will show a film. Also scheduled is a speaker from the Board of Grain Commissioners on "Farm Drying of Grains." The meeting will be the last for **Gerry Dennehy**, secretary, who has left Merck & Co., Inc., to take a position with McArthur Chemical Co.

●

Cabinet Shuffle

Surprise federal reorganization in Ottawa moves **Alvin Hamilton,** minister of northern affairs, to position as minister of agriculture. Former minister of agriculture, **Douglas Harkness,** now named minister of national defense, while **Gordon Churchill,** minister of trade and commerce, moves over to post as minister of veterans' affairs. **George Hees,** minister of transport, becomes minister of trade and commerce. Surprise element in prime minister's announcement was transfer of Canadian Wheat Board from Trade and Commerce Department to Department of Agriculture. Now all matters concerning wheat board will be handled by Mr. Hamilton.

●

Great Britain:

Latham Foods, British subsidiary of General Mills, Inc., is starting extensive trade advertising to introduce its Betty Crocker baking mixes to U.K. consumers. Campaign will use full pages in London evening papers, supported by double-page spreads and full pages in women's magazines. Campaign planned by the company in conjunction with its advertising agency, Batten, Barton, Durstine & Osborn.

●

Russia:

Heightened competition for world wheat markets is prediction of two U.S. grain experts back from a tour of U.S.S.R. **Raymond Vickery,** USDA official, and **John Cowan,** Dannen Mills, Inc., report Russia making determined effort to expand production on new lands opened for farming. Also, series of steps being taken to upgrade Russia's exports and establish reputation as supplier of quality wheat. «

Obituaries

MRS. LEE ATHERTON, wife of Richard C. Atherton, north central regional sales manager of Victor Chemical Works, Chicago. Mrs. Atherton died of a coronary attack at her home in Glen Ellyn, Ill. Mr. and Mrs. Atherton had just returned from the Michigan State Millers Assn. convention at Hidden Valley, Mich. There had been no previous coronary indications.

ROBERT W. MUNS, retired head of Robert W. Muns & Son, New York cereals and flour firm, in a nursing home in New Jersey. Mr. Muns was 96.

At one time Mr. Muns was manager of the American Cereal Co. (later Quaker Oats Co.) in New York. He was a former member of the New York Produce Exchange.

Survivors are a son, one daughter, two sisters, four grandchildren and nine great grandchildren.

EDWARD P. ESCHER, 68, vice president and member of the board of directors, Screw Conveyor Corp., of a heart attack while at a luncheon with other company executives.

Mr. Escher was an industrial engineer active in development and installation of milling and feed manufacturing machinery.

Survivors include his wife, Rose; a son, William; three daughters, Mrs. Anita Staples, Mrs. Robert Branahan and Mrs. Dolores Jackman. «

Pneumatic Handling System Operating At Tennant & Hoyt's Lake City Plant

Progress takes action, and it's under way with gusto at Tennant & Hoyt Co. in Lake City, Minn., where a modern pneumatic flour handling system is in operation and proving highly successful.

Although the tested mill flow is unchanged, the up-to-date pneumatic system is for conveying of all mill stocks, designed and installed under the supervision of the Buhler Mill Engineering Co.

"It's a major step in our continuing modernization program," said C. R. Hoyt, president. "In operation now for several weeks, it's highly successful," he added.

A tribute to engineering skill and ingenuity, the system was completed over a period of four months without interruption of mill operations. Workmen came in over week-ends, when the plant was down on regular schedule, and made their installations. As a result of this, not a pound of production was lost and milling capacity was maintained.

The old system at Tennant & Hoyt had all bucket elevators, plus bucket elevators for the mill stocks. There were three wheat lifts in the old building. These have been replaced by pressure pneumatic systems.

Other Operations

The same modernization has been accomplished for Tennant & Hoyt's screenings operations and for whole wheat flour milled in an individual unit apart from the standard flour mill.

Finished products, such as patent flour and clears, as well as bran and shorts, are handled by air.

Of equal importance, air from the pneumatic systems is cleaned in two suction filter dust collectors of Buhler design.

In addition to the pneumatic systems, new purifiers and new sifters have been installed in the Tennant & Hoyt plant.

The firm ships flour in bulk as well as in sacks. It also operates a fleet of Airslide bulk rail cars. Bulk truck facilities will be available in the next several months.

Five years ago Tennant & Hoyt completed construction of bulk flour storage bins with a total capacity of 16,000 cwt.

The plant has a daily flour capacity of 5,500 cwt. and storage space for 600,000 bu. The company was founded in 1901 and is now operated by the fourth generation. At the present time E. O. Peterson is vice president and general sales manager. «

New Grain Office

Continental Grain Co., which closed its Louisville office, plans to open an office at Hutchinson, Kansas. The firm will be represented at Hutchinson by Seaborn W. Brown, formerly manager of the Louisville facilities, states Michel Fribourg, Continental's president.

Another change involves the assignment of Chester W. Polson, associated with the Kansas City office the past year, to Continental's merchandising staff at Ft. Worth. «

E. E. Quinn

Cecil Taylor

E. E. Quinn Named To Head Exchange

Election time has rolled around again at the Minneapolis Grain Exchange, bringing with it a new president in the person of E. E. Quinn, vice president of Benson-Quinn Co., representing commission merchants. Mr. Quinn succeeds retiring president Allan Q. Moore, vice president, the Pillsbury Co.

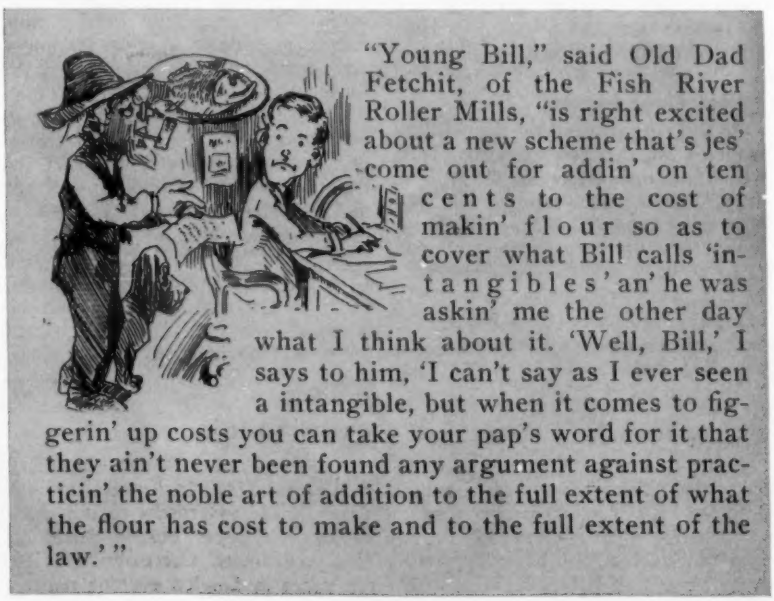
One new director was elected, Cecil E. Taylor, assistant secretary and manager of the grain department of Bay State Milling Co.

Allan L. Burdick, president of Burdick Grain Co., has been elected vice president. He represents shippers.

Several directors have been reelected for two-year terms: C. H. McCarthy, president, McCarthy Bros. Co., for commission merchants; Stuart F. Seidl, vice president, Rahr Malting Co., representing milling; R. L. Searles, broker, representing futures; E. J. Barry, vice president, Farmers Union Grain Terminal Assn., for terminal elevators, and P. Norman Ness, vice president, International Milling Co., representing futures. «

AMF REPLIES IN PATENT LITIGATION

American Machine & Foundry Co. has received notice of suit filed in the U.S. District Court at Newark, N.J., by Baker Process Co. based on a patent issued for continuously making bread dough (The MILLER, Oct. 3, page 16). AMF officials have stated that they will defend their position vigorously in the suit and any similar action. Baker Process, a division of Wallace & Tiernan, Inc., stated earlier that it would take action to restrain AMF from what Baker Process considers patent infringement covering its Do-Maker equipment and procedure. «


"Young Bill," said Old Dad Fetchit, of the Fish River Roller Mills, "is right excited about a new scheme that's jes' come out for addin' on ten cents to the cost of makin' flour so as to cover what Bill calls 'intangibles' an' he was askin' me the other day what I think about it. 'Well, Bill,' I says to him, 'I can't say as I ever seen a intangible, but when it comes to figgerin' up costs you can take your pap's word for it that they ain't never been found any argument against practicin' the noble art of addition to the full extent of what the flour has cost to make and to the full extent of the law.'"

A man with experience in the U.S. Department of Agriculture since 1936, **Theodore H. Anderson,** has been advanced to deputy director, programs, for the five-state area of the Commodity Stabilization Service's commodity office headquartered at Kansas City. He'll be directing management and disposition of commodities acquired under Commodity Credit Corp. price support programs in Colorado, Kansas, Missouri, Nebraska and Wyoming.

For 10 years he's been deputy director for management of the Kansas City commodity office. In his new position Mr. Anderson succeeds **Carl M. Heaton,** now director of the Minneapolis CSS commodity office, says **Donald E. Smith,** director of the Kansas City operations.

●

Bemis Bro. Bag Co. is making some managerial changes in its central operations preparatory to retire-

S. M. Spencer

S. D. Robey

ment next Jan. 31 of its veteran St. Louis plant and sales division manager, **Philip C. McGrath,** who has been with Bemis over 47 years.

S. M. Spencer has been appointed to Mr. McGrath's spot as manager of the St. Louis bag plant and sales division—and Mr. McGrath will be special assistant to the company's director of sales in the St. Louis general offices until his retirement, states **T. H. Ashton,** central operations director.

As manager of the Omaha plant and sales division Bemis has named **S. D. Robey,** with the firm since 1950 in plants at Peoria, Ill., and the Salt Lake City sales office until appointed sales manager at Omaha in 1957.

Mr. Spencer is a graduate of Washington University, St. Louis, and came to Bemis in 1937, serving successively as sales manager in Oklahoma City, product supervisor in the general sales department at St. Louis, and as assistant manager of the St. Louis plant. Two years ago he was named manager of the company's plant and sales division in Omaha.

●

The Biscuit and Cracker Manufacturers Assn. has taken action to fill the post of secretary-treasurer, vacated by the death of Walter Dietz until permanent appointment can be made. **Thomas F. Deutschle**, member of the public relations staff of the American Bakers Assn., will fill-in until permanent assignment is made. It's double duty for Mr. Deutschle—he's merchandising manager for ABA—and will continue in this capacity along with working for the biscuit and cracker association. It appeared to be a natural selection, said **Frank J. Delaney, Jr.**, Midwest Biscuit Co., Burlington, Iowa, association president. Mr. Deutschle has been on the ABA public relations staff since 1959, and worked closely with Mr. Dietz from the time the biscuit and cracker association affiliated with ABA.

●

There's a retirement and a promotion in the bakery and industrial flour division of General Mills, Inc., at Springfield, Ill. **L. T. Jones** has retired after 35 years of service and will be succeeded by **Howard T. Grant** in the handling of sales in a six-state area. Mr. Grant formerly was with GMI's institutional products division.

●

One of the paper industry's veterans, **A. W. Hines,** has been moved to a top-level spot with Raymond Bag Corp. He is now vice president of manufacturing and a director of the corporation. It means Mr. Hines will be in charge of all phases of manufacturing in Raymond's plants at Richmond, Va., and Middletown, Ohio. He's been in the industry since 1930, joining Albemarle Paper Manufacturing Co. at that time. In 1955 he came to Raymond as production manager.

A. W. Hines

Mr. Hines is a graduate of the American Management Assn.; a member of the Waterproof Manufacturers Assn., Inc., the Paper Shipping Sack Manufacturers Assn., and numerous local civic and business organizations in Middletown.

●

Hudson Pulp & Paper Corp.'s multiwall division has a new product manager, **Howard Brody**, with the firm three years and a fellow with broad experience in sales, marketing and technical multiwall problems. It's a move up—Mr. Brody was assistant to the multiwall division's sales manager. His new duties will mean keeping abreast of all multiwall developments and coordinating Hudson's continuing effort to find ways to best meet its customers' packaging needs, says **Benjamin Danziger**, the firm's manager of administration and market planning for the division.

Howard Brody

●

The Russell Miller-King Midas Mills milling division of F. H. Peavey & Co. has come forward with a realignment of personnel involving four promotions, reports **W. R. Heegaard**, vice president in charge of sales. **Nathan G. Nelson** becomes assistant to **B. Frank Morris**, vice president of bakery sales; **Selmer B. Rodning** is assigned as manager of a newly-created grocery products division; **William S. Hitchings** becomes assist-

In the issue of THE MILLER dated Oct. 3 the firm affiliation of Reuben Meckel, who wrote on Southwest Flours and Fermentation, was inadvertently omitted. Mr. Meckel is manager of baking technology with the International Milling Co.

ant manager of the Buffalo sales district, and **Leon G. Loverud** moves up to assistant district manager of the central states sales district.

Formerly responsible for King Midas sales in the Chicago district, Mr. Nelson now expands his responsibilities to coordination and sales control of the firm's rye flour business, plus handling branch and district sales of white bakery flour.

Mr. Rodning was in charge of Occident family flour sales and distribution—now he'll add King Midas flour and American Beauty family flour, along with associated mill brands for all areas in which the company distributes consumer packaged flour.

Mr. Hitchings, who has been manager of the King Midas Philadelphia branch, will operate as assistant to **Robert H. Cromwell**, district manager for New York and Pennsylvania.

To Mr. Loverud goes the duty of handling the newly aligned Russell Miller-King Midas Chicago sales office, which means moving his residence from Minneapolis to Chicago early in 1961. He'll manage the Chicago office as a sub-branch under **Ray E. Bury**, central states district manager at the company's Alton, Ill., mill.

●

Shelton J. Jones has become manager of the St. Louis plant of West Virginia Pulp & Paper Co., succeeding to the position held by **Allen G. Woodruff** until his resignation. Formerly plant production manager, Mr. Jones is credited with helping develop West Virginia's extensible paper introduced more than two years ago.

S. J. Jones

He started at the Charleston, S.C., mill in 1952 as a special projects engineer, transferring to St. Louis in 1959. Mr. Jones is a graduate of Clemson College and did graduate work at the Citadel.

●

Strong-Scott Manufacturing Co. is sharpening sales representation to its food and chemical processing accounts in Minnesota, Wisconsin, Iowa and Nebraska and is transferring one of its veterans to the industrial processing equipment sales division. He's **C. A. Carlson,** chief mechanical engineer with Strong-Scott 10 years. In this area Mr. Carlson directed much of his efforts to sales. Now he'll serve as direct sales representative.

A member of the National Society of Professional Engineers, Mr. Carlson has prepared and had published a number of papers and articles on mixing and grinding. He also has spoken before numerous groups across the country on these subjects. His appointment was announced by **R. R. Strong,** executive vice president of the Minneapolis firm.

●

Top position in American Maize Products Co.'s marketing activities goes to **Charles H. Sanford, Jr.,** now elected to the firm's board of directors. He also becomes vice president for sales, succeeding **James B. Melick,** now retired.

C. H. Sanford

Mr. Sanford obtained a degree in chemistry and physics from Fordham University in 1934 and is an alumnus of the Harvard advanced management program. His background covers various sales positions with a number of sugar and molasses firms. He was sales and advertising manager of American Molasses Co. until 1945, leaving that position to become a partner in the John T. Graff & Co., Inc., advertising-sales promotion agency. He joined American Maize's Chicago office as assistant manager of package sales two years later, moving on to manager of bulk sales in New York in 1949.

●

Plaudits are due two of Cargill, Inc.'s grain merchandising experts, **Gerald M. Mitchell** and **Lawrence D. Elfelt, Jr.,** for jobs exceptionally well done. Both have been named Cargill's "Merchants of the Year," reports **H. Robert Diercks,** vice president and head of the grain division.

Winner Mitchell, Milwaukee, was cited for excellent sales and management ability in a key grain marketing area, plus tip-top customer service, economy of operation and outstanding coordination of elevator use.

As for Mr. Elfelt, he was chosen for aggressive sales leadership in the Los Angeles market area and for "excellent coordination of merchandising efforts with other supplying offices of Cargill."

Mr. Diercks commended both men for their creative sales abilities and for remarkably businesslike performances —all of help in improving Cargill's position in two of the nation's most important markets.

●

Canadian

Some executive duties are being rearranged by the Canadian Wheat Board, with responsibilities emphasized in the areas of export grain trading and utilization, plus opening of a Tokyo office.

C. E. G. Earl, formerly board comptroller, will bear the title comptroller-secretary. With the board since 1947 as comptroller, he'll continue to handle financial operations, accounting procedures and staff management, plus taking on additional duties as secretary.

D. H. Treleaven, secretary since 1957, becomes executive assistant. Prior to 1957 he was supervisor of the statistics and economics department, coming to the board in 1954. Mr. Treleaven will act as liaison officer for the board's sales activities, along with assuming specific duties connected with national and international developments of the export trade and utilization of grains.

A. W. Cordon, formerly executive assistant in sales, now in Japan, will establish his residence in Tokyo later this year. His title will be Far Eastern representative. He has been with the Canadian Wheat Board 16 years, principally as senior officer of the sales department.

●

National Grain Co., Ltd., Winnipeg, is making some top management changes, including election of its 51-year-veteran, **R. Russell Emerson,** to the position of board chairman. His responsibilities as president and general manager of the Canadian affiliate of F. H. Peavey & Co., Minneapolis, will be taken over by **Reginald E. Bean,** another National Grain veteran. Mr. Bean formerly did duty as first vice president and assistant general manager, and has been with the firm since 1923.

George W. P. Heffelfinger, Jr., moves from vice president to executive vice president; **Robert W. Philips** becomes vice president-assistant general manager, and **William M. Nieman,** divisional manager, moved up to vice president-assistant manager, the post formerly filled by Mr. Philips.

Mr. Emerson started as office boy in 1909, did duty in the Canadian army in World War I, returned to the firm, and held various offices and managerial posts with predecessor companies. He was vice president-general manager in 1940, executive vice president-general manager six years later, president-general manager in 1958.

Since 1923, Mr. Bean has moved from country elevator positions to traveling superintendent, divisional manager, secretary in 1946, assistant general manager and assistant secretary in 1950, to vice president and assistant general manager in 1951.

The Roche Review Of Enrichment Requirements

for Cereal Grain Foods in the United States

All figures represent milligrams per pound

PRODUCT	Thiamine (B_1)		Riboflavin (B_2)		Niacin		Iron	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Enriched BREAD or other *baked* products	1.1	1.8	0.7	1.6	10.0	15.0	8.0	12.5
Enriched FLOUR[1]	2.0	2.5	1.2	1.5	16.0	20.0	13.0	16.5
Enriched FARINA	2.0	2.5	1.2	1.5	16.0	20.0	13.0	*
Enriched MACARONI & NOODLE Products[2]	4.0	5.0	1.7	2.2	27.0	34.0	13.0	16.5
Enriched CORN MEALS	2.0	3.0	1.2	1.8	16.0	24.0	13.0	26.0
Enriched CORN GRITS[3]	2.0	3.0	1.2	1.8	16.0	24.0	13.0	26.0
Enriched Milled WHITE RICE[4]	2.0	4.0	1.2**	2.4**	16.0	32.0	13.0	26.0

* No maximum level established.

** The requirement for vitamin B_2 is optional pending further study and public hearings because of certain technical difficulties encountered in the application of this vitamin.

1 In enriched self-rising flour, calcium is also required between limits of 500-1500 mg. per pound.

2 Levels allow for 30-50% losses in kitchen procedure.

3 Levels must not fall below 85% of minimum figures after a specific test described in the Federal Standards of Identity.

4 The Standards state that the rice, after a rinsing test, must contain at least 85% of the minimum vitamin levels. The Governments of Puerto Rico and the Philippines also require this rinsing test. If the method of enrichment does not permit this rinsing requirement to be met, consumer size packages must bear the statement, "Do not rinse before or drain after cooking." Rice enriched by the Roche method will meet the rinsing test. The South Carolina law does not require a rinsing test on packages less than 50 pounds, as the rice in small packages is presumed to be sufficiently clean.

The maximum and minimum levels shown above for enriched bread, enriched flour, enriched farina, enriched macaroni, spaghetti and noodle products, enriched corn meal and corn grits and enriched rice are in accordance with Federal Standards of Identity or State laws. Act No. 183 of the Government of Puerto Rico requires the use of enriched flour for all products made wholly or in part of flour, including crackers, etc.

Brief, authoritative stories about the enrichment of many cereal grains have been gathered into a booklet which you may have for the asking. Just send your request for "The Vital Story of Cereal Grain Products" to the Department of Education, Fine Chemicals Division, Hoffmann-La Roche Inc., Nutley 10, New Jersey.

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Kennedy Farm Program Will Increase Food Prices

Wheat and Flour Products, Prepared Mixes, TV Dinners, Ingredients, Meats, Edible Fats Will Zoom Under Democratic Proposals

By John Cipperly
Washington Correspondent

AN ANALYSIS of some of the consequences of the farm program recommended by presidential candidate Sen. John F. Kennedy has been made by officials of the U.S. Department of Agriculture. That program espouses an income parity price for farm commodities. With this analysis at hand it is pertinent to dig into the collateral issues which the program would create.

What is parity income? It is equality between the earnings and other returns from farming and those from non-farm occupations. In arriving at the estimated income parity price in its analysis, USDA is said to have used a direct comparison between average earnings in agriculture and those in other occupations. Using the analysis for illustration, the grain trade, milling and other cereal processing industries and the baking business can calculate for themselves the impact of the Kennedy proposals on their operations.

John Cipperly

USDA reports that the parity income price would be $2.90 bu. For September, 1960, the price received by farmers for wheat was estimated to be $1.72 bu. while the parity price for that commodity for the same month was $2.36.

Effect on Flour Exports

For the milling industry one must speculate on the effect of this substantial boost in the price support level for wheat on flour exports. Obviously it would require substantial increases in the subsidy payment to compensate for the increased level of support for the commodity. It could bring a shrinkage in the flour export market and perhaps speed the intensive drive for economic self sufficiency exhibited by the planned operations of the European Common Market in the field of domestic agricultural trade.

On the domestic front the millers and bakers would face rising retail prices for bread and family flour to reflect the higher price for flour alone. In other agricultural commodities, which Sen. Kennedy would protect at an income parity price level, production costs would be boosted. Examples are eggs and milk and the millers would find this affecting costs in the prepared mix field.

Marketing Reduction Foreseen

USDA declares that the Kennedy program would not only increase the prices of wheat, eggs and milk, but it would also bring about a reduction in the marketing of wheat by between 38 and 46%, of milk between 5 and 10% and eggs between 15 and 20%.

On an over-all basis USDA estimates that the Kennedy program would require a reduction of approximately 20% of U.S. agricultural marketings to achieve the price level the Kennedy plan contemplates.

Another cost increasing factor for the prepared mix business may be found in the higher levels of support for soybeans and cotton where the Democratic farm program would hike the level of support for cotton to about 0.485¢ lb. and the level of support for soybeans to $3.65 bu. Such violent upward adjustment is certain to have serious price repercussions on such end products of these commodities as edible oils.

The newly expanded industry of the so-called TV dinners would run into sharp increases in its retail prices since the income parity concept for meats would see beef jump up to $29.40 cwt. as compared with the present parity price of $23.80.

Likewise, the price support level for chickens would advance about 8½¢ lb. To the extent that these levels of support are boosted under the Kennedy proposal, it is reasonable to assume that demand for ready-to-cook food products would be lowered.

The parity income support level for swine would be about $26.80 according to the estimates of the USDA technicians, thereby in turn pushing up the price for another vital ingredient, lard.

The impact of the Kennedy proposals does not fall on wheat and its processing and marketing industries alone.

They would hit with great force on the corn processing industries where the level of support would rise to $1.97 bu. as compared with the September farm price of about $1.06. Under the existing parity level of support the September parity price, as reported by USDA, was $1.62 bu.

Millers need no prodding to estimate the price increases they would have to make on their dry cereal products.

Perhaps the authors of the plan believe that since the over-all program would so sharply reduce the availability of red meat per capita from its present level of 160 lb. to something less than 140 lb., the lower level of availability would provide less meat than was available under rationing during OPA controls when black markets existed widely. And it follows that they may believe that the consuming public would be forced into a heavier cereal diet notwithstanding the higher retail prices which would result.

That the meat supply would be so drastically cut back might be an indication of future rationing. As most OPA experts can report, rationing and price controls are twins. Once such a step is taken, then one can sense the danger of a broad system of controls of the OPA variety and the viciousness of the black market.

It must be remembered that price levels which would provide the farm community with income price parity can only be sustained by the most drastic reduction in productivity on the farm. «

GENERAL MILLS' REPORT WINS ANNUAL AWARD

General Mills, Inc., has been selected for the first place award for issuing the best stockholder annual report of the milling and grain industry. The award is made as a result of the 20th Annual Report Survey sponsored by "Financial World," national weekly magazine. A bronze "Oscar-of-Industry" will be presented to GMI officials at an awards banquet in New York. Nearly 5,000 reports were reviewed in 96 categories during the annual competition.

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Robert J. McDonald

William J. Geimer

Two Appointments Made by Bemis in Packaging Service

Bemis Bro. Bag Co. has made two managerial appointments in its packaging service at Minneapolis, with additional responsibilities planned for management personnel when veteran William J. Geimer retires as divisional manager next Jan. 31.

Robert J. McDonald has been named assistant manager and T. I. B. Gray sales manager of Bemis packaging service which designs and manufactures bag filling, closing and conveying equipment in addition to providing plant survey services for installation and improvement of packaging operations of customers.

In the announcement H. V. Howes, director of sales, also stated that Mr. McDonald will succeed Mr. Geimer as manager of packaging service when the latter retires at the end of January. Mr. Geimer, widely known in the industry, has been with Bemis since January of 1916.

Mr. McDonald joined Bemis in Omaha in 1935. He became a salesman in 1941, serving in Nebraska, Idaho and Colorado until 1955, when he was appointed sales manager of packaging service.

Mr. Gray has served as an industrial engineer, personnel assistant and sales representative with Bemis since 1949. He was transferred to packaging service early this year as a member of the packaging machinery sales group. «

AOM DISTRICT 11

District 11, Association of Operative Millers, has scheduled a meeting for Oct. 28-29 at the Hotel Robert E. Lee in Winston Salem, N.C. Speakers will cover such topics as "What's New," "New PVC Belting," "Changeover of Rolls and Bearings," "Mill Flow," and "Use of Impact Machines in the Mill Flow," among others. There will be a baking demonstration and an "Address from Management." «

ABA Appoints Research Liaison Committee

The American Bakers Assn. is setting up close liaison with the U.S. Department of Agriculture in research relating to wheat and bakery foods. As a result, a new committee of research and laboratory directors of bakery organizations has been named by Thomas L. Awrey, Awrey Bakeries, Detroit, ABA chairman, to work with USDA.

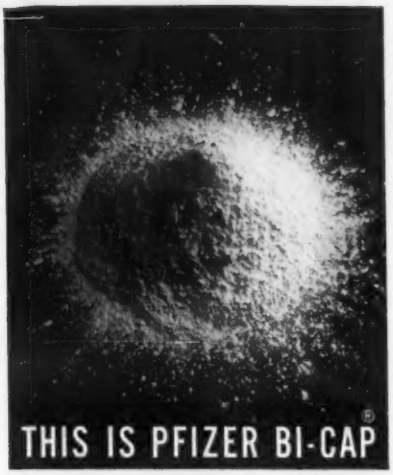
Dr. Robert H. Cotton, director of research for Continental Baking Co., Rye, N.Y., is chairman of the new committee.

Serving with him will be Dr. William B. Bradley, scientific director, American Institute of Baking, Chicago; L. S. Marnett, director of laboratories, C. J. Patterson Co., Kansas City; Rowland J. Clark, W. E. Long Co., Chicago; Stanley A. McHugh, director of laboratories, American Bakeries Co., Chicago; Gaston Dalby, director of research and development, Ward Baking Co., New York; Dr. Oscar Skovholt, director of laboratory, Quality Bakers of America; Dr. Robert K. Hower, research director, National Biscuit Co., Fair Lawn, N.J.; Stephen Vesecky, vice president, Campbell - Taggart Associated Bakeries, Dallas, Texas, and Duard W. Enoch, director, product research department, Interstate Bakeries Corp., Kansas City.

It is planned to have the committee meet at least once each year to discuss research activities financed by USDA. «

Visitors from the Philippines

Visiting grain firms in the U.S. recently were a couple of milling executives from the Philippines. Pictured at left is Daniel K. Maramba, vice president, manufacturing, Liberty Flour Mills, Inc., Manila. The new plant, built by Thomas Robinson & Son, Ltd., of England, is expected to go into production in February, 1961. Shown below, at left, is Fernando A. Lagua, wheat buyer, Republic Flour Mills of Rizal—another Robinson-built installation now being doubled in capacity. On the right is Max Markley, Minneapolis cereal chemist, who has acted as consultant to Republic.



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■ The BI-CAP line includes: BI-CAP Flour Enrichment Mixtures—types AM (single strength) and CM (double strength), BI-CAP Bolted Cornmeal Enrichment, BI-CAP Whole Cornmeal Enrichment, BI-CAP Degerminated Cornmeal Enrichment, and BI-CAP Rice Enrichment. Write for full information about all Pfizer enrichment concentrates.

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Ellis C. Baum, Packaged Cake Pioneer, Honored by Continental on Retirement

Ellis C. Baum, the man who pioneered packaged cakes and opened a new field for the baking industry, has turned over his duties at Continental Baking Co. to others and retired. He will remain, however, as a director of the firm and its subsidiary companies, with whom he has been associated since 1927.

As fitting tribute to the man who travelled the U.S. interesting bakers in packaged cakes—an innovation at that time—his associates at Continental honored Mr. Baum with a dinner and cocktail party.

On hand to extend their best wishes to the founder of Continental's Hostess cake line and vice president of its Hostess cake division were R. Newton Laughlin, president, and Clifford W. Isaacson, vice president in charge of cake sales.

Mr. Baum served as a 2nd lieutenant in World War I and shortly after discharge became interested in packaged cakes while sales manager of the Joe Lowe Co.

His enthusiasm impressed M. Lee Marshall, one of Continental's founders, and in 1927 Mr. Marshall hired Mr. Baum as cake sales manager. Soon he became head of the entire cake division. Under his guidance the Hostess snack line was expanded and its distribution widened to include most of the country.

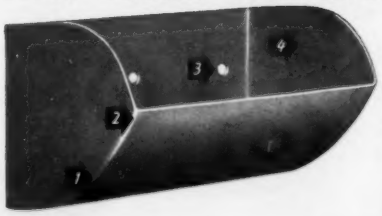
Mr. Baum served two years as president of the New York Bakers Club and two terms as president of the Allied Trades of the Baking Industry. «

WEDDING ANNOUNCED

Mrs. Harvey Yantis, wife of the late Harvey Yantis, who was president of The Miller Publishing Co., was married Oct. 1 to Ellis C. Baum, Rye, N.Y., in the First Baptist Church at White Plains, N.Y. Matron of honor at the small family wedding was Mrs. W. Gerald Peterson, Minneapolis, sister of the bride. The couple are making their home in Scottsdale, Ariz. «

ELLIS C. BAUM, retiring vice president of the Continental Baking Co., in charge of its cake division, is shown at the head table of the banquet given in his honor by his associates at Continental's general office, Rye, N.Y. To his left is B. Glenn MacNary, executive vice president, and to his right is Clifford W. Isaacson, vice president in charge of cake sales.

First Choice Wherever Grain is Handled



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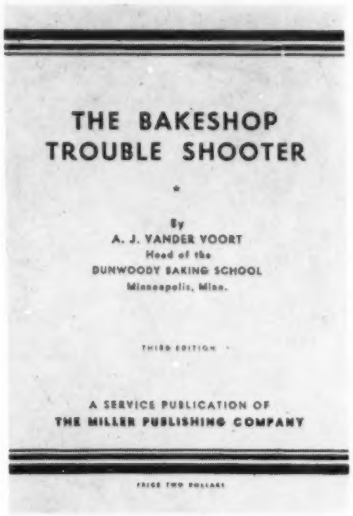

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Minneapolis Grain Exchange Puts TV to Work

Experimental System Beams Quotations to Key Executive Offices

By KENNETH W. WAKERSHAUSER
Managing Editor, THE Northwestern MILLER

The Minneapolis Grain Exchange, where the scratch of chalk on a blackboard means time and money, has put electronics to work on the age-old problem of finding swifter methods of communication.

Simply put, closed circuit television now relays price quotations from the trading floor to offices in the exchange building and also to the Pillsbury building about four blocks away.

THIS TELEVISION CAMERA is focused on the blackboard of the Minneapolis Grain Exchange, where it picks up quotations which are in turn transmitted to the several receiving positions set up as part of the exchange's new system of closed circuit TV. Examining the equipment is Arthur Boe, manager of the exchange's trading floor.

It's experimental — everyone involved stresses this fact—but the possibilities for progress and development also are readily apparent.

Television at work for the grain traders represents another step in the evolution from runners "hot footing it" from trading floor to office, followed by the telegraph and the telephone in their times, to instantaneous, visual communication of price information.

So far, on a trial basis, the image has been good and the executives using the information speak highly of the system, at the same time recognizing its initial limitations.

To the knowledge of exchange officials, this system is the first of its kind to be utilized in a grain market anywhere in the world. As an example of the potential for communica-

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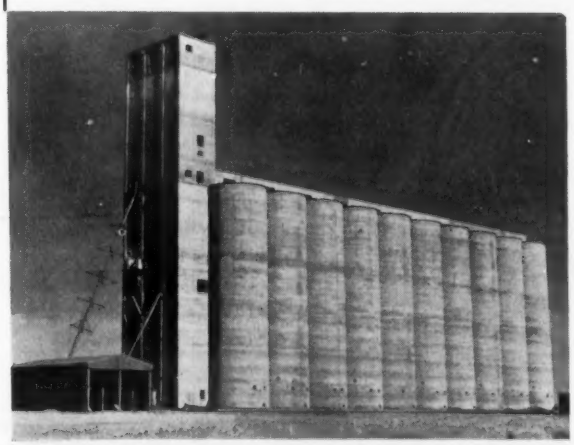

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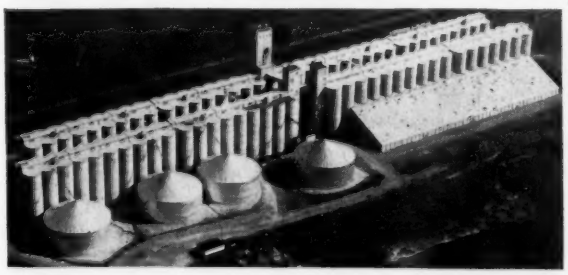

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tions service, about a million bushels of grain change hands on the trading floor of the Minneapolis exchange every day. This represents an average daily dollar volume of $1.5 to $2 million.

If the program is accepted on a permanent basis, one of two systems probably will be used to transmit the information. Monitors may be placed in grain executives' offices, enabling a view of the entire futures market boards at the same time.

Or, one monitor would be placed in each customer's office, with a switch to permit changing from one camera to another, thereby viewing the various markets.

For this experiment the camera was focused on Minneapolis and Chicago wheat and is being received by five monitors. A single camera and transmitting unit mounted on the trading floor balcony opposite the blackboard does the job.

Conceivably, with more cameras, exchange members would be able to have in their offices whatever commodity information they desired—but cost, of course, is the big factor. Additional information transmitted would require more cameras.

Televised quotations currently reach the Peavey and Cargill offices from the trading floor via wires. At Pillsbury, because of the distance, information is televised by use of a micro-wave transmitter which sends radio waves to a receiving unit on top of the Pillsbury building.

Use of the system by Pillsbury—by microwave over radio rather than by use of wires—tickles the imagination with its potential for beaming vital commodity market information to any office in the Minneapolis area once it becomes economically feasible to do so.

What are the reactions of those executives now using the televised information in their own offices?

Frederic H. Corrigan, F. H. Peavey & Co.: "I guess you'd call us guinea pigs—frankly, the coverage we now receive by TV is good, although it's not complete. With the Minneapolis and Chicago figures side by side on the set we can see three months' quotations at a glance — it's like having a blackboard right in your own office."

F. H. Corrigan

However, added Mr. Corrigan, we did not realize until the television came in how much we looked at other quotations, too. All in all, Mr. Corrigan considers the new system as progress and a good step forward.

George Wilkens, executive vice president of the Minneapolis Grain Exchange: "This means of communication holds real promise. One important challenge will be to coordinate all of the various exchanges into a program that will permit re-transmission of quotations around the country.

George Wilkens

"For example, on our board we have quotations from Winnipeg, Chicago and Kansas City, as well as Minneapolis. We have to learn the attitude of these people to televise information from their markets. At this time I can say that we were out to prove that we could transmit the image — and that's been accomplished."

Allan Q. Moore, president of the grain exchange, and vice president of grain-feed ingredients merchandising divisions, the Pillsbury Co., considers it a desirable, forward move, and explains why:

Allan Q. Moore

"We at Pillsbury have many people on the trading floor, and we have an office in the exchange. To these people we delegate market responsibilities to a great extent. But we think

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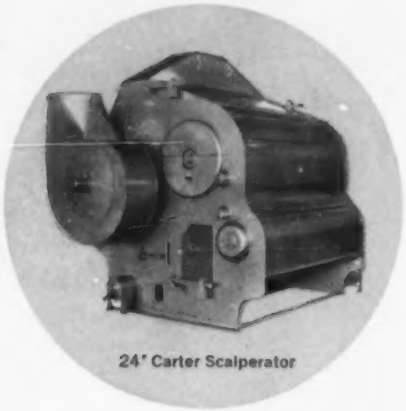

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this service is the beginning of an expansion for those people not officed in the exchange building."

Mr. Moore's reception of the televised information so far has been good, and he visualizes eventual expansion of the closed circuit TV information to cover other commodities beyond wheat. The Pillsbury set is in the company's communications center near Mr. Moore's office.

John P. Cole, Cargill, Inc.: We're quite enthusiastic about this televised system. Now we can get the same market information in a distant spot that's available on the trading floor. This televised system is the only way to do that without a full crew on hand.

John Cole

Mr. Cole pointed out that Cargill has people in various offices scattered across the city, simply because there's not enough room to house all at the grain exchange. All of these people currently are accessible for market information only by telephone or ticker.

At present, of course, the system is being tested to determine the image quality of the information—and Mr. Cole finds that the image on his set has been excellent. «

Industry Patents

2,952,545

Baking Aids and Use of Same. Patent issued Sept. 20, 1960, to Otto Pfrengle and Christel Pietruck, Budenheim (Rhine), Germany. A solid baking aid composition suitable for use with comestible baking flours, which comprises light and fluffy calcium phosphate particles having a bulk weight of less than 600 grams/liter, and a glyceride baking aid bonded to said phosphate particles.

2,952,549

Improvement of Wheat Flour. Patent issued Sept. 20, 1960, to Otto Pfrengle and Christel Pietruck, Budenheim (Rhine), Germany. A comestible flour composition being free of added oxidants and having improved baking properties, which comprises a major proportion of wheat flour and 0.1-1% of a calcium hydroxylapatite additive having a bulk weight of less than 400 grams/liter, said additive serving to increase the volume of the baked product normally produced with said flour. «

Dr. C. H. Bailey Winner of 1960 Spencer Award

Dr. C. H. Bailey, one of the top 10 ablest agricultural and food chemists in the U.S., is 1960 winner of the Charles F. Spencer Award for outstanding achievement in the fields which he has served so long and capably.

Dr. C. H. Bailey

With the award, made by Spencer Chemical Co. and administered by the Kansas City Section, American Chemical Society, go a medallion and a $1,000 honorarium. The award was established by the late Kenneth A. Spencer, founder of the firm, in memory of his father.

Honors for distinguished service are not new to Dr. Bailey. The dean emeritus of the Institute of Agriculture at the University of Minnesota holds the Osborne Medal for distinguished contributions in cereal chemistry (1932); the Nicolas Appert Medal for outstanding achievement in food technology (1946); and the Neumann Medal awarded by the German Association of Cereal Research (1955).

Chicago Section

The Chicago Section, American Chemical Society, named Dr. Bailey as one of the 10 ablest agricultural and food chemists in the U.S. in 1947, while the Minnesota Junior Chamber of Commerce selected him as one of the 100 living great Minnesotans in 1949.

Selection of Dr. Bailey for the Charles F. Spencer award was announced by John C. Lamkin, chairman of the award committee. Plans are to make formal presentation at the annual fall chemical conference in Kansas City Nov. 18.

One of Dr. Bailey's associates sums up his accomplishments this way:

"His work as teacher, investigator and administrator has had great influence on the development of agricultural and food chemistry, particularly cereal chemistry, throughout the world. Largely as a result of his pioneer research activities, the cereal and other food industries came to realize the importance of research and development work." «

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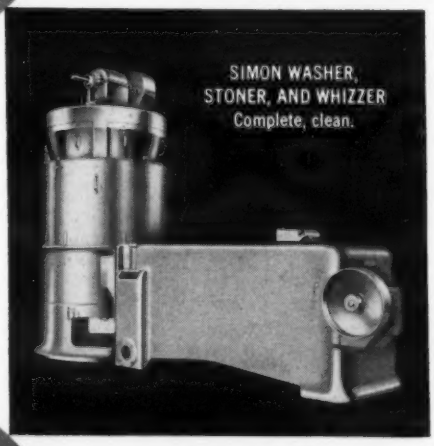

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Udy, Kjeldahl Protein Analysis Procedures Studied

The vital procedure of classifying wheat for protein content can be speeded up—and with accuracy—by use of the Udy Protein Analyzer, according to a study sponsored by the North Dakota Wheat Commission.

In the study, the accuracy of protein tests made by the conventional Kjeldahl method were compared with those from the Udy analyzer. As a result, O. J. Banasik, acting chairman of the department of cereal technology, North Dakota Agricultural College, reported correlation of the Udy analyzer with the Kjeldahl method to be 0.970. (A correlation of 1.0 is considered perfect.)

Tests were made on 189 samples of standard varieties and new selections of nursery wheat of widely different protein contents and quality to insure a more exacting test than would normally be encountered in general field samples. Protein contents ranged from 9.6% to 19.4%.

Additional Tests

Additional tests were made to learn how consistent the Udy analyzer was in determining protein level of duplicate samples. The results indicate that precision of the apparatus is comparable to the values reported in the literature for the accepted Kjeldahl method.

In summarizing the study, Mr. Banasik reported also that speed of the new Udy method may also offer important advantages, specifically if results are needed in a hurry. In such a case, protein percentage can be obtained with the analyzer in about 5 min., whereas the Kjeldahl procedure would require almost 2 hr.

The study indicates that the protein analyzer should be especially useful for classifying car or truck load lots at country or terminal elevators, giving accurate results at all protein levels when operated by competent personnel.

A more complete report will be released in the bi-monthly bulletin, published by NDAC. A copy of the report may be obtained by writing to Mr. Banasik at the college, Fargo, N.D. «

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GEAPS Chapter Plans For November Meeting

Superintendents, their wives, and associates, from up and down the West Coast are expected to "move in" on Stockton, Cal., Nov. 9 through 11 for a topnotch annual convention of the Pacific Coast Chapter, Grain Elevator & Processing Superintendents.

That's the word from Dan L. Skondin, Kerr Grain Corp., Portland, and he cites an excellent program, with plenty of business—and entertainment—to bring in the crowd.

Registration and a get-acquainted period will hold forth Wednesday evening, Nov. 9, as delegations begin to arrive. Thursday morning the gathering will plunge into business sessions, breaking aff for a dinner dance in the evening, then going back to business again the morning of Friday, Nov. 11.

While the superintendents are discussing the technical problems of their business, a special program will be in full swing for their wives. «

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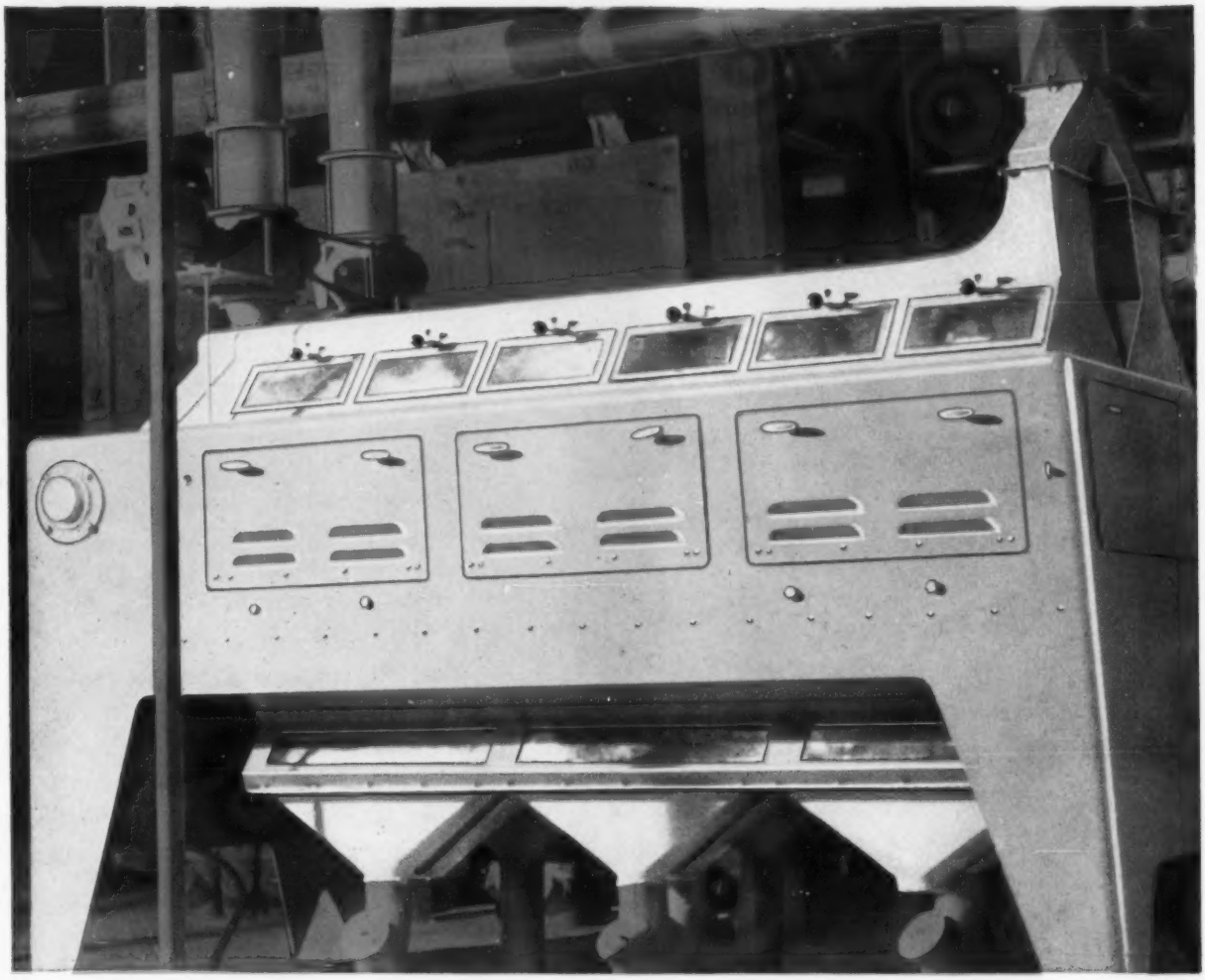

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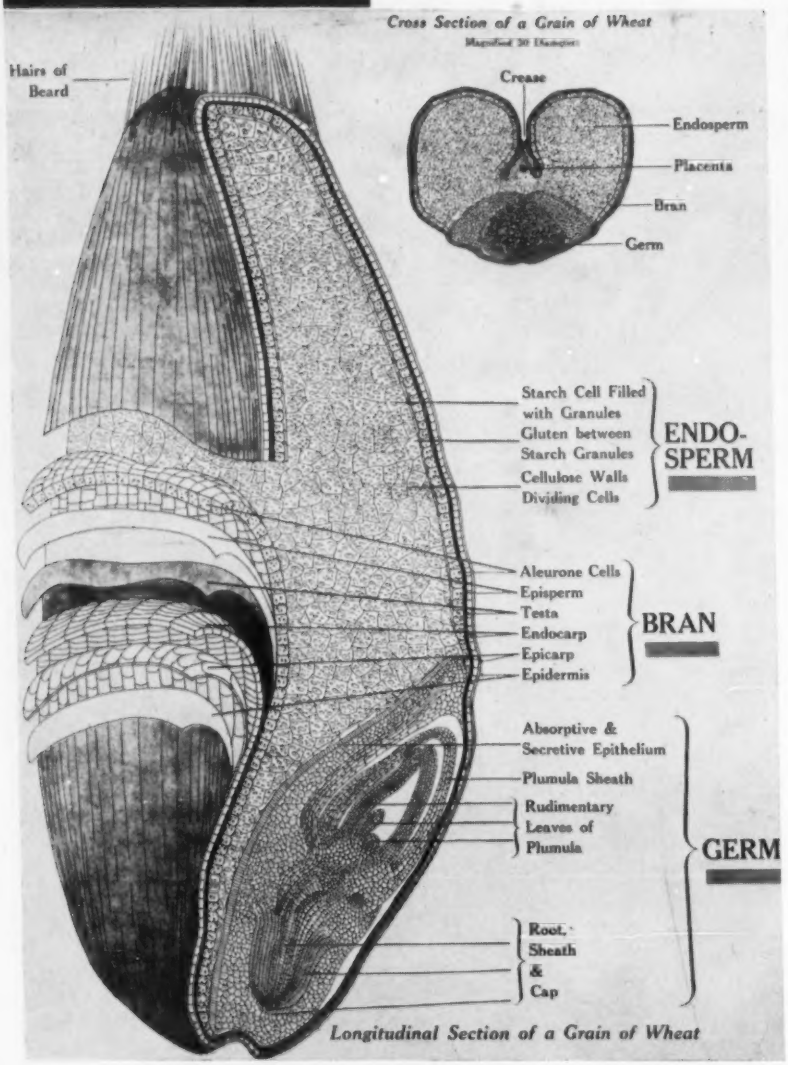

Two heads are better than one, and a score bent on solving a problem may lick it even more quickly. Slime in the wheat washer water, and its side effects, comprise one of these problems. To get to the root of the problem, it becomes necessary to study the entire structure of the grain itself. Dr. Cronyn is an assistant professor of chemistry at Reed College and consulting chemist for Industrial Processes, Inc., of which Mr. Ofner is president. Dr. Cronyn has done much examination of material on the subject of the chemistry of cereals, with particular emphasis on wheat and rice brans, as his bibliography at the end of this article shows.

That Honorable Old Kernel of Wheat

Introduction

By FRANK R. OFNER

A problem of slime in the wheat washer water and resultant side effects have been found to be similar to the problems encountered in all other types of raw food processing, with the probability of a relationship between the slime and the micro-organism growth problem in other food processing plants.

Frank R. Ofner

In order that we may better determine what the problem is, and the relationship, if any, it was felt that the proper way to formulate an attack was to have Dr. Cronyn research the available literature, and in synopsis form, comment on this material. This report, then, becomes the guide for future work which we have undertaken to determine the cause and solution to the problem.

It is hoped that other chemists reading this may remember some research work that they have done, and that this material will also be made available to the industry.

The bibliography, we feel, will be important to any cereal chemist's files as a means of furthering this knowledge or the solution of specific problems which the bibliography may point up.

Our research program of one or two years duration is now under way, and the results of this investigation will be publicized as soon as they become available.

By DR. MARSHALL W. CRONYN

THIS report is a review of recent literature describing the various chemical aspects of wheat and rice brans. The emphasis is on the chemistry of the bran, this being the source of most water soluble extractive substances. It is also most vulnerable to both mechanical and solvent extractions.

The choice of wheat and rice bran was governed largely by the practical consideration that these grains seem to have received the most careful attention from the agricultural chemists.

Several investigators have made rather careful studies of the gross

Numerals in parentheses refer to bibliography at end of article.

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Vertical design with impact pockets

Increased amount of flour with low ash contents

Large clean bran flakes

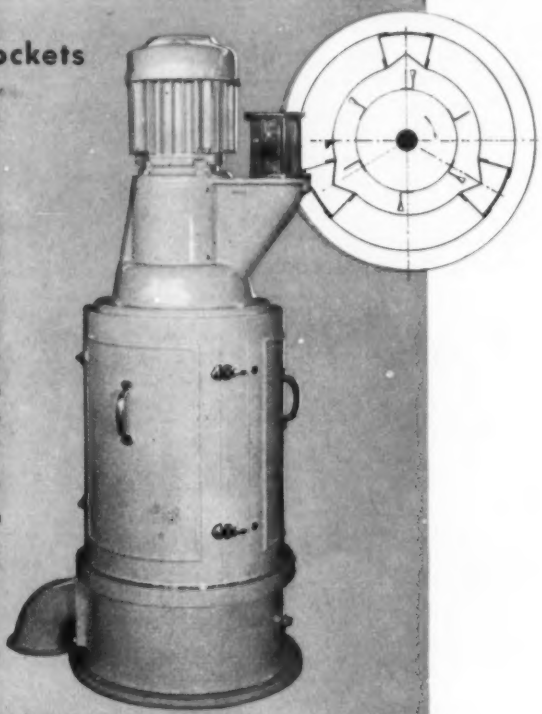
The bran enters from above into the processing space enclosed by sieves in which the dynamically balanced rotor fitted with beaters revolves at high speed. The bran is well distributed by means of the beaters and constantly cushioned and turned by the vertical impact pockets so the particles of flour are thoroughly removed from the bran flakes because of the beater and impact pocket effect.

The flour leaves the machine through the perforations of the sieve cover and is discharged through a hopper, whereas the bran particles leave the machine through a spout.

The machine is driven by a flanged motor* on top.

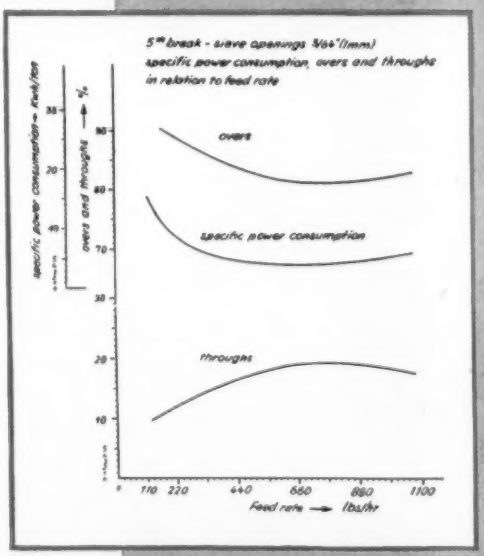
The dynamically balanced rotor ensures a smooth run of the machine.

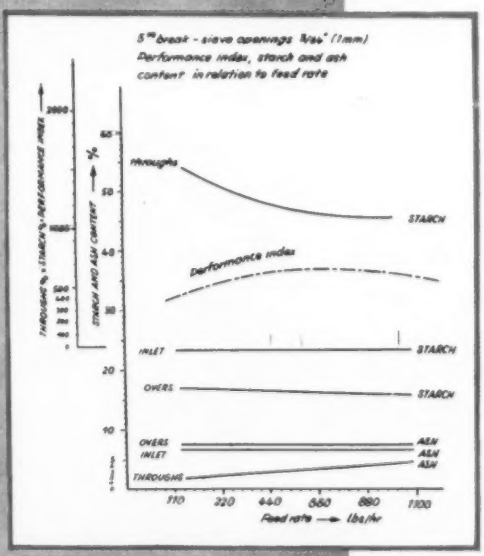
The bran finisher is installed in wheat flour mills usually after the 4th to 6th break, in rye mills after the 1st break as well as the 5th and 6th break.



3 sizes for capacities from 250 to 3000 lbs/hour.

* motor with Underwriter's label for Class 2 group G application available.


5th break - sieve openings 1/64" (1mm)
specific power consumption, overs and throughs in relation to feed rate
specific power consumption – Kwh/ton
overs and throughs – %
overs
specific power consumption
throughs
Feed rate → lbs/hr



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chemical composition of the various cellular layers in the bran.

Using a wheat with a total bran which was 14% of the dry weight of the kernel, the following results were obtained by Shellar et al (1): Of the 14% weight, 9% was in the hyaline and aleurone layer, 3.9% in the epidermis, 0.9% in the cross layers and 0.6% in the testa.

The chemical analysis in per cent of dry weight was as shown in Table I.

It should be noted that the hyaline-aleurone layer contains 60% of the ash, 90% of the protein, 94% of the fat, 56% of the pentosans and 29% of the cellulose in the whole bran.

TABLE I

	Ash	Protein	Fat	Cellulose	Pentosans
Endosperm	0.7	14.0	1.0	0.3	3.5
Hyaline-aleurone .	5.0	35.0	7.0	6.0	30.0
Epidermis	1.4	4.0	1.0	32.0	35.0
Cross layers	13.0	11.0	0.5	23.0	30.0
Testa	18.0	15.0	0.0	0.0	17.0

TABLE II

	% of corn kernel	Ash	Protein	Oil	Sugar	Starch
Endosperm ..	81.9	0.31	9.4	0.8	0.64	86.4
Germ	11.9	10.1	18.8	34.5	10.8	8.2
Bran	5.3	0.84	3.7	1.0	0.34	7.3
Tip-cap	0.9	1.51	9.1	3.8	1.52	5.3

A similar analysis obtains in corn (2) is shown in Table II.

While this type of general analysis provides an over-all view of the chemical constitution of the kernel with respect to these major categories of chemical types, it does not say very much about what kind of protein, what types of amino acids, what glycerides, which particular sugars and what types of starch, etc., are present. Perhaps more important, this type of analysis says nothing about a variety of substances which are present in much smaller quantities, but which may be very important in a process such as grain washing with recirculation of the water.

Structure Examined

For example, Adams and Castagne (3) have examined the structure of the hemi-cellulose fraction of bee wing wheat bran.

Of the 37% hemi-cellulose, 50% of the sugar obtained on hydrolysis was found to be L-arabinose, 38.5% D-exlose and 9% glucuronic acid. Structure determination work on this material indicated a highly branched B-arabo-xylan with a degree of polymerization of about 300. Wheat straw holocellulose extracted with hot water gives a hemi-cellulose of a very similar type with 28% D-xylose, 50% L-arabinose, 3% uronic acid and a degree of polymerization of about 30. Another indication of the nature of the hemi-cellulose and pentosan fractions of bran is the percentage of fermentable sugar (glucose, fructose, galactose, etc.) obtained upon acid hydrolysis of various cereal products (4).

The percentages obtained are shown in Table III.

Xylose and arabinose were found to be the major unfermentable sugars and were determined by paper chromatography. Some gentiobiose and isomaltose were also produced.

In 30 Northwest wheats (5) the

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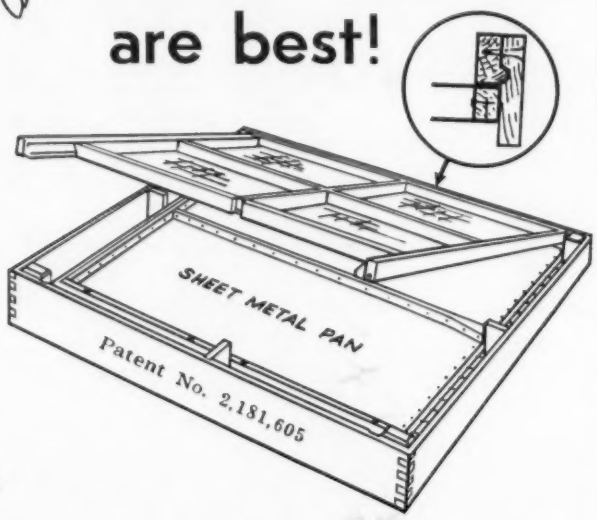

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arabinose to xylose ratio was found to be 3:5 in the bran vs. 0.6:1.7 in the whole wheat.

The compositions of the protein fractions of bran have not been studied quite as extensively as the carbohydrate fraction; however, oryzenin and albumin have been identified as at least two of the proteins present in rice bran (6) and a quantitative determination of several of the more important amino acids in wheat bran has been published by a Russian group (7) (see Table IV).

TABLE IV

Amino Acid	% of Protein in Wheat Bran
Tryptophan	1.85
Lysine	2.1
Arginine	9.2
Tyrosine	3.2
Cystine	1.0
Histidine	2.46

The fatty acid constituents of the bran wax components have been analyzed and most of the acid content is accounted for by a mixture of oleic, linoleic, linolenic, palmitic, stearic, and behenic acids. The total quantity of this wax is not large, being on the order of 0.3% to 1% (8), (9).

While these analyses of the major constituents of cereal brans account for the largest part of the dry weight of the crude bran, dozens of other constituents have been identified either

TABLE III

Sweet Potatoes	72	Millet	56
Potatoes	18	Tapioca	77
Polished Rice	24	Crude Starch	70
White Rice Bran	61	Starch Cake	48
Kaoliang	65	Brown Rice Bran	12
Crude Barley	53	Wheat Bran	32
Wheat	65	Waste Molasses	41
Corn	63	Pure Molasses	40

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directly by isolation procedures, or indirectly by a measurement of the effect small amounts of these substances has in the catalysis of chemical reactions or on the growth of other organisms.

Phytin provides an example of an important substance in corn and in wheat and rice bran which is present in fairly substantial amounts and yet is not included in the usual analyses for fat, carbohydrate and protein. It is the calcium-magnesium salt of inositol hexaphosphate and accounts for a major part of these minerals and phosphorus in the bran. It is also present in potato juice and in many seeds and grains.

From 3.5% to 6% of free phytic acid has been determined in corn bran (10-12), while the percentages found in various brans and flours appear in Table V.

TABLE V

0.164 oats	0.257 corn	0.955 wheat bran
0.202 barley	0.284 rye	

Choline is present to the extent of 0.146% in wheat bran (13-14) and in rice bran a new aglycone which is a glucoside of glucose and some alkaloid has been isolated and identified by Kihara (15).

Important Effects

Finally, there are two classes of compounds which are present in extremely low concentrations, but which are capable of producing important effects in very low concentrations. For example, there are many vitamins in wheat bran. The B vitamins are well represented with 2.6 mg/100 g of nicotinic acid in barley bran (16). Rice bran oil is, of course, rich in vitamins with biotin, folic acid, riboflavin, pantothenic acid, inositol, niacin, thiamine and pyridoxine (17-20).

There is a group of substances whose chemical structure is not known in great detail, but whose presence is inferred from the effects these substances have on the rate of chemical reactions such as the hydrolysis of starch to sugar, the hydrolysis of proteins to amino acids, fats to glycerine and the fatty acids, etc. These substances are the enzymes or organic catalysts. The various cereal brans seem to be veritable store houses of enzymes of all types.

Wheat bran is a good source of diastase (21-24). It has been found that treatment of wheat bran with 0.05% sodium sulfite increased the diastase activity of the aqueous extract to that of a medium grade barley malt (21).

The same investigators (21) also devised a method for recovering 86% of the protein as a separable scum by a mechanical treatment.

An esterase, or lipase enzyme for promoting the hydrolysis of fats is present in bran (25-26).

There is also present, an appreciable amount of both phytase, the enzyme which promotes the hydrolysis of the phytic acid in bran and other phosphatases such as glycerophosphatase.

The measurement of the phenoloxidase activity of different varieties of wheat has been suggested as a means of distinguishing between them (31).

Catalase activity has been demonstrated by the decolorizing action of a linoleic peroxide on carotene (32).

A diamine oxidase activity which attacks histamine has been demonstrated (33), and this is no doubt an incomplete list.

Judging from the chemical composition of bran and from a few reports on the analysis of aqueous extracts, a few generalizations might be made concerning the materials to be expected in grain washing water.

For example, a study at the Northern Regional Laboratory of the U.S. Department of Agriculture (34) indicates that when wheat is treated either with 1% H_2SO_4 or 1% KOH the degradation of cellulose material is greatest near the bran and less toward the crease. It is also greatest in the first 2 or 3 cell layers just under the aleurone layer and there was more degradation with varieties of wheat having good milling qualities.

In 1955, an Italian group (35) analyzed an aqueous wheat bran extract as found in Table VI.

TABLE VI

Residue 4-5% of the dry wt. of bran
Carbohydrates 21% as glucose
Ash 16%
H_2O 10%
Fat 27%

They also reported that a cobalt complex of a volatile constituent of this residue acted as a stimulant for wheat germination. They termed this substance aleuronin.

A similar analysis of rice bran by some Japanese chemists (36) gave the following results: 7.5% of the rice bran was extractable in cold water, while 21% was extracted with hot water. The original bran had an analysis of 27% carbohydrate, 17% ash, 6% protein, 17% pentosans and 35% cellulose. This was the same work which showed a new glucoside (15).

The solubility of at least some of the protein material has been demonstrated, since 26% of the protein in wheat bran is extractable with hot water (37).

Summarizing both the actual analytical results and extrapolating from the solubility characteristics of the various components which have been demonstrated in the bran of various cereals we might expect the following: That the aqueous washes from cereals would contain the following substances: Sucrose (38), glucose, soluble pentosans containing D-xylose, L-arabinose and glucuronic acid, both alpha and beta amylose starches, proteins, small amounts of glycerides as emulsions, the calcium and magnesium salt of phytic acid, since this is somewhat soluble in water, choline would be present as well as particular compounds which may be peculiar to a particular type of cereal such as the glucoside found in rice bran. All of the water soluble vitamins such as thiamine, vitamin C, the B vitamins, etc., would be expected.

The concentration of hemi-celluloses might be followed by hydrolysis to the pentoses and conversion to fur-

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fural as suggested by Adams and Castagne (40).

A recent article by F. R. Senti and C. R. Russell (41) on high amylose starches which are now obtained from special hybrid corn developed for this purpose may throw some light on the formation of films in washing processes. This new type of corn gives 60-80% amylose starch rather than the former amylopectin. The difference is in the degree of branching of the chains making up the polymer. The amylose is linear, more like cellulose, and therefore forms tougher strands and films and tends to gel from solutions more readily.

Studies on amylose have shown that ability to form a gel is destroyed by cleaving each molecule only two or three times (i.e., with alpha-amylose); however, the product at this stage has an increased tendency to retrograde or form an insoluble precipitate (42), probably because of greater mobility and ease of orientation of the shorter linear molecules. The ability to form strong flexible films and to provide emulsifying and protective colloid action are also progressively lowered.

This article (41) also contains reference to several methods for the chemical modification of starch such as hydroxyethylation, cyanoethylation, etc. «

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In order to deactivate phytose:

(45) C.A. 49, 10443 (1955); R. Hill and C. Tyler, J. Agri. Sci. 44, 306 (1954).

pH 2.9 for 5 min. or longer (uniform increase in rate 15 to 50°).

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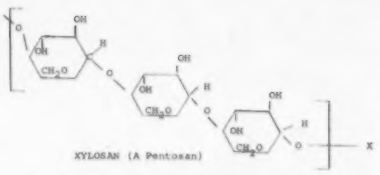
torrila utilio No. 3 } best
t. utilio major }
c. arborea—used 95% of sugar, give 41% conversion to dry yeast.

The pentosans are like cellulose with a hydrogen in place of—CH_2OH:



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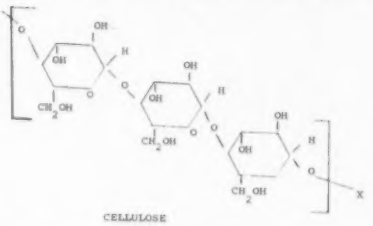

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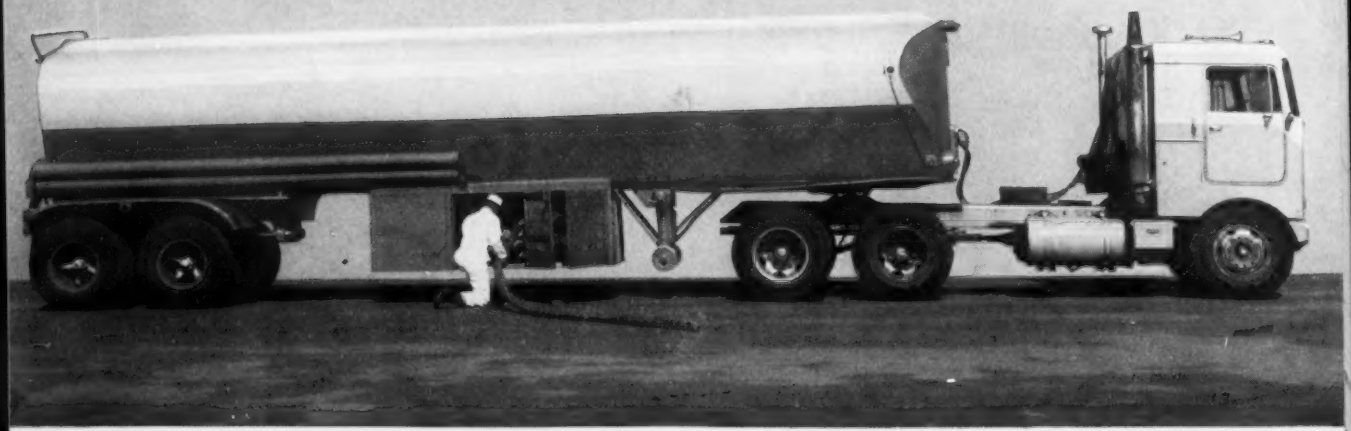

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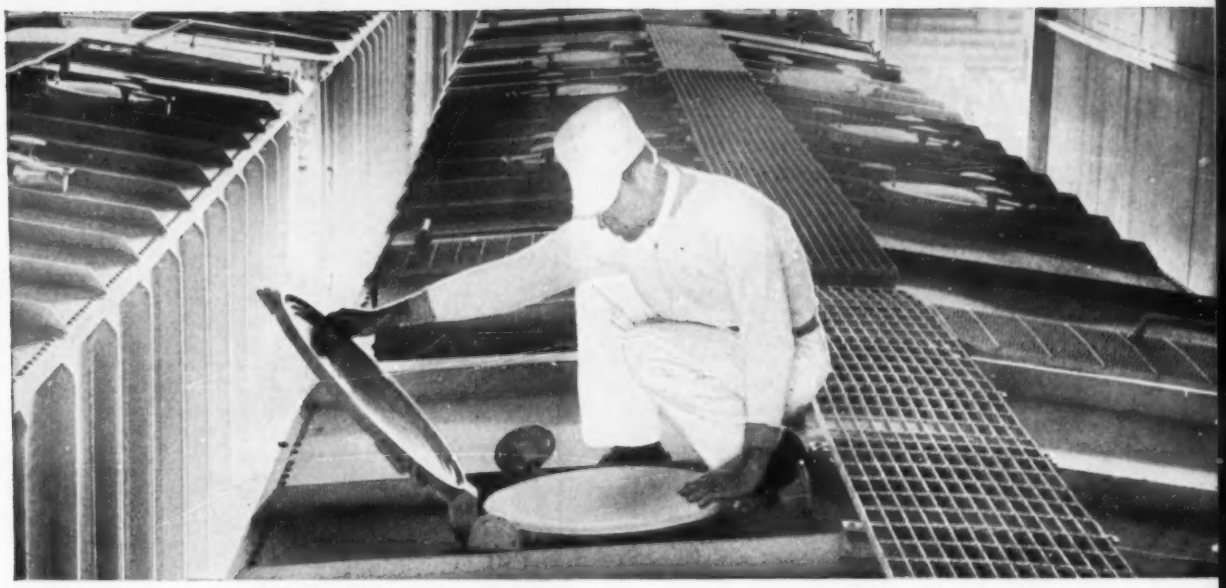

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Oct. 24—Connecticut Bakers Assn., Inc., annual convention; Hotel Stratford, Bridgeport, Conn.; sec., Charles Barr, 584 Campbell Ave., West Haven 16, Conn.

Oct. 28-29—District 11, Association of Operative Millers; Robert E. Lee Hotel, Winston Salem, N.C.; sec., J. L. Campbell, Sterwin Chemicals, Inc., 5435 Northside Road, Charlotte, N.C.

November

Nov. 4-5—District 13, Association of Operative Millers; Palliser Hotel, Calgary, Alta., Canada; sec., Gerry Dennehy, Merck & Co., Winnipeg, Man., Canada.

Nov. 5-6—Nebraska Bakers Assn., annual convention; Town House, Omaha, Neb.; sec., Louis F. O'Konski, Jr., Standard Brands, Inc., 1806 Chicago St., Box 1842, Omaha, Neb.

Nov. 11-12—District 12, Association of Operative Millers; Ben Lomond Hotel, Ogden, Utah; sec., Joseph J. Keiser, Salt Lake Flour Mills, Salt Lake City, Utah.

Nov. 14-15—New England Bakers Assn., fall convention; Sheraton-Plaza Hotel, Boston, Mass.; sec., William E. Bowman, 945 Great Plain Ave., Needham 92, Mass.

Nov. 14-15—Washington Association of Wheat Growers, annual convention; Davenport Hotel, Portland, Ore.; sec., Milton Wolf, Latah, Wash.

CALENDAR FOR 1960-61

OCTOBER

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December

Dec. 10—District 2, Association of Operative Millers; Aladdin Hotel, Kansas City, Mo.; sec., George Smutny, Safety Industries, Inc., Kansas City, Mo.

Dec. 15-16—7th Annual Business Clinic for Elevator Managers; Michigan State University, E. Lansing, Mich.; sec., Carleton C. Dennis, Dept. of Agricultural Economics, Michigan State University.

1961

January

Jan. 14-17—Ohio Bakers Assn., annual convention; Carter Hotel, Cleveland, Ohio; sec., Clark L. Coffman, Seneca Hotel, Columbus, Ohio.

January 20-21—District 10, Association of Operative Millers; Fresno Hacienda Motel, Fresno, Cal.; sec., Gene Thomas, California Mill Equip. Co., San Mateo.

Jan. 22-24—Pennsylvania Bakers Assn., winter convention; Pittsburgh Hilton Hotel, Pittsburgh, Pa.; sec., Theo. Staab, 600 North 3rd St., Harrisburg, Pa.

Jan. 28—District 4, Association of Operative Millers; Pick-Nicollet Hotel, Minneapolis, Minn.; sec., W. A. Howie, J. K. Howie Co., Metropolitan Bldg., Minneapolis.

Jan. 29-31—Potomac States Bakers Assn., 45th annual winter convention; Lord Baltimore Hotel, Baltimore, Md.; sec., Edwin C. Muhly, 1126 Mathieson Bldg., Baltimore, Md.

February

Feb. 3-5—Bakers Association of Carolinas, annual stag outing; The Carolina, Pinehurst, N.C.; sec., Mac Inscoe, V. C. Ambler Co., Paris, Texas.

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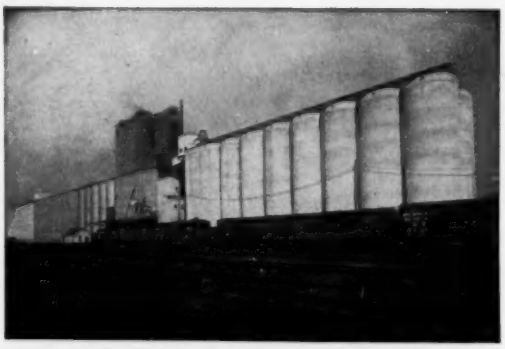

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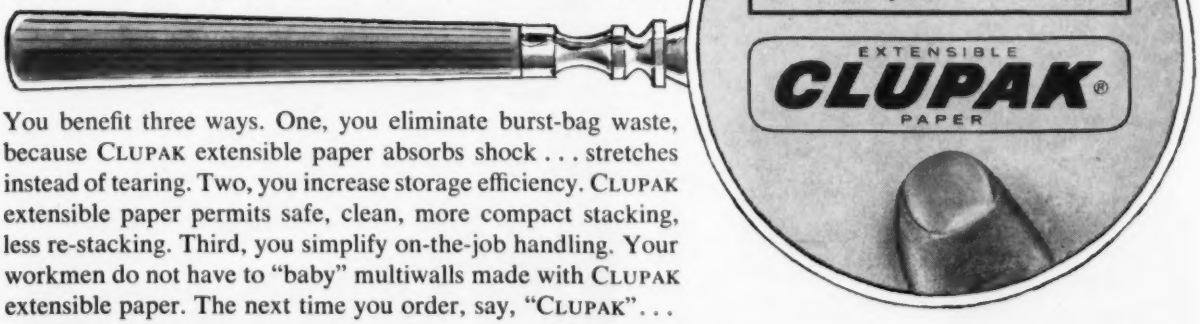

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Feb. 11—District 14, Association of Operative Millers; Denver, Colo.; sec., John Streit, Wallace & Tiernan, Inc., Denver.

Feb. 25 - March 4—National Retail Bakers Week; chm., Walter R. Schuchardt, 735 West Sheridan Road, Chicago.

March

March 8-9—Nebraska Grain & Feed Dealers Assn., annual convention; Sheraton-Fontenelle Hotel, Omaha, Neb.; sec., Howard W. Elm, Trust Building, Lincoln, Neb.

March 10—District 7, Asrsociation of Operative Millers, Biltmore Hotel, Oklahoma City, Okla.; sec., Harry H. Stark, Ross Machine & Mill Supply Co., Oklahoma City.

April

April 4—Allied Trades of the Baking Industry Div. 4, annual assembly. Abraham Lincoln Hotel, Reading, Pennsylvania; sec., Vernon N. Bush, 330 Bern St., Reading, Pa.

April 9-12—Oklahoma-Arkansas Bakers, annual convention; Western Hills Lodge, Wagoner, Oklahoma; sec., Jno. C. Summers, Oklahoma State Tech., Okmulgee, Oklahoma.

April 9-13—American Association of Cereal Chemists, annual convention; Baker Hotel, Dallas, Texas; sec., Ray Tarleton, 1955 University Ave., St. Paul 4, Minn.

April 10-12—Pacific Northwest Bakers Conference; Multnomah Hotel, Portland, Ore.; sec.-mgr., Roger Williams, P.O. Box 486, Salem, Ore.

April 16-19—Associated Retail Bakers of America, annual convention; Hotel Sherman, Chicago, Ill.; sec., Miss Trudy Schurr, 731-35 W. Sheridan Rd., Chicago.

April 23-26—Millers National Federation, annual convention; Shoreham Hotel, Washington, D.C.; sec., John Sherlock, MNF, 309 W. Jackson Blvd., Chicago 6.

April 23-28—Grain Elevator & Processing Superintendents, annual convention; Baker Hotel, Hutchinson, Kansas; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4.

May

May 22-25—Association of Operative Millers, annual technical conference and trade show, Hotel Pick-Nicollet, Minneapolis, Minn.; sec., Donald S. Eber, 639 Board of Trade Bldg., Kansas City, Mo.

May 26-28—National Association of Flour Distributors, annual convention; Hilton Hotel, Pittsburgh, Pa.; sec., Philip W. Orth, Jr., Ph. Orth Co., 304 E. Florida St., Milwaukee 4, Wis.

June

June 4-6—New York State Association of Manufacturing Retail Bakers, annual convention; Westchester Town House, Yonkers, N.Y.; sec., Frank E. Englert, 135 Primrose Drive, New Hyde Park, N.Y.

July

July 16-19—West Virginia Bakers Assn., 1961 convention; the Greenbrier Hotel, White Sulphur Springs, W.Va.; sec., Mrs. Edward R. Johnson, 611 Pennsylvania Ave., Charleston 2, W.Va.

September

Sept. 17-18—Wisconsin Bakers Assn., annual convention; Plankinton House, Milwaukee, Wis.; sec., Fred H. Laufenburg, 6173 Plankinton Bldg., 161 W. Wisconsin Ave., Milwaukee 3.

October

Oct. 7-12—1961 Baking Industry Exposition; Convention Hall, Atlantic City, N.J.; sec.-treas., Harold Fiedler, 20 N. Wacker Drive, Chicago 6, Ill.

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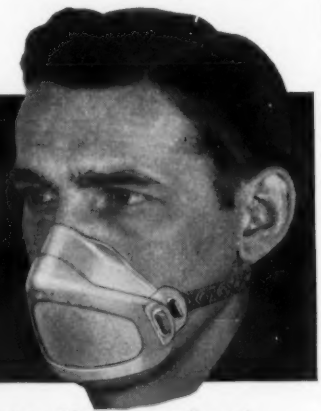

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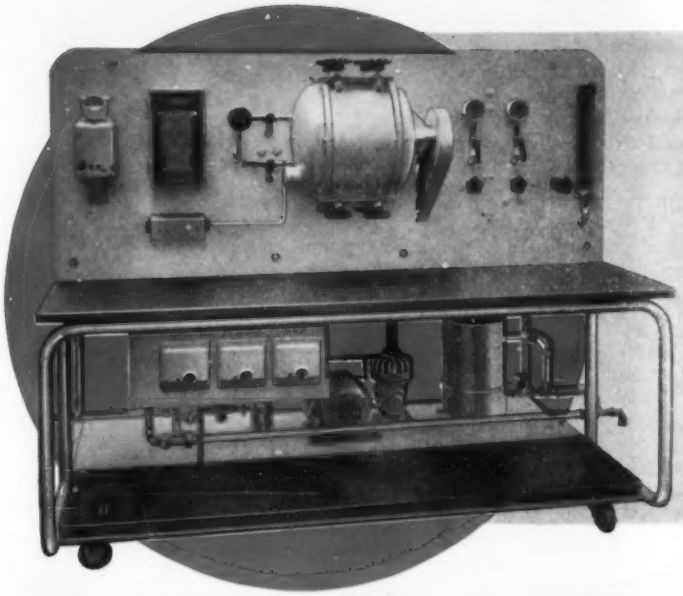
Montana Flour Mills Holds Annual Meeting

Montana Flour Mills Co., Great Falls, has passed another milestone—its 50th annual meeting of shareholders—with 89.5% of the total number of shares represented in person or by proxy.

At the shareholders' meeting and the 50th annual directors' meeting held immediately thereafter, the board of directors which served last year was reelected for the current year: R. J. Anderson, J. C. Berky, W. H. Bertsche, Jr., E. F. Galt, Newell Gough, Jr., H. M. Hamilton, N.J. Holter, A. W. Johnson, C. G. McClave, J. D. Stephenson and L. E. Taylor.

All officers were reelected for the current year. They are: C. G. McClave, president and general manager; J. C. Berky, first vice president and assistant general manager; Harry Wallace, treasurer; C. H. Wright, secretary; H. C. Johnson, vice president in charge of the formula feed division and assistant treasurer; E. M. Murphy, vice president in charge of flour sales and assistant secretary, and W. V. Gannon, vice president in charge of production.

Another item of business was declaration of a dividend of 25¢ per share, payable Dec. 10, 1960, to stockholders of record Dec. 1, 1960. «



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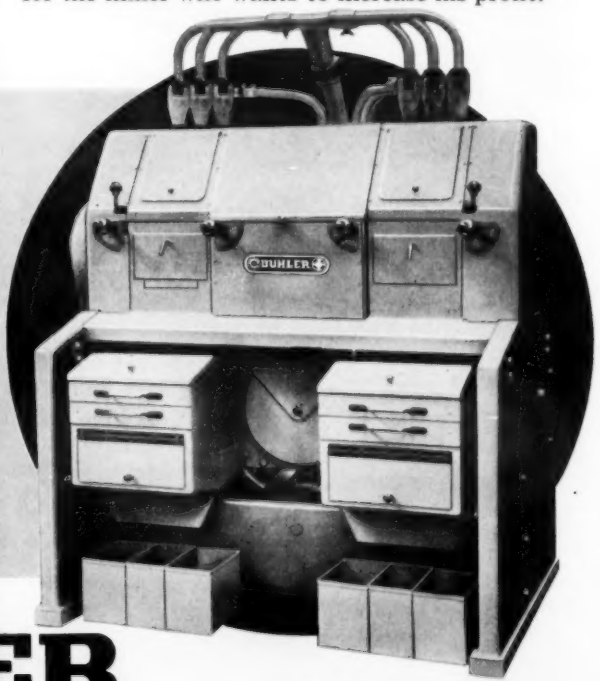
In North America alone, over 100 BUHLER Laboratory Mills are operating in flour mills to determine proper wheat mixes, and at colleges and agricultural experiment stations where new wheat varieties are being developed. Thousands of samples are tested daily and decisions made accordingly.



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IF INVADED by the Khapra beetle, storage structures should be wrapped entirely with plastic covers and fumigated with methyl bromide. However, the wrapping and treatment of each facility require individual study.

He's Small and Slow, This Khapra Beetle, But He's Persistent . . . Killing Him Can Be Done, But It Takes Technical Help, Time and Money.

A Milling Technology Feature

Let's Kill the Khapra Beetle Invader

By RICHARD T. COTTON

The U.S. has been invaded, and cereal grains and flour milling products are among the primary targets. The enemy's size is small, his power of locomotion is limited — but he's able to burrow in and hide, growing and spreading at a steady rate, increasing his powers of damage and contamination.

R. T. Cotton

Trogoderma granarium Everts —khapra beetle for short—is the invader's name, and he is considered one of the worst pests of stored grains in countries with climates favorable to his development.

Plant quarantine records of the U.S. Department of Agriculture show that this beetle has been found in 121 ships since 1951, counting a given ship but one time although infestations may have been found on the same ship on two or more voyages, or in both cargo and non-cargo areas.

It was first found in a commercial importation of peanuts at New York. Through June 24, 1960, 55 cargoes of miscellaneous material have been found infested, involving 45 different ships. During the period of July 1, 1959 to June 30, 1960, the pest was intercepted 133 times. Eighty-two ships of approximately 58,900 inspected by the Plant Quarantine Division during the same period—or their cargoes—have been infested.

According to a recent news release by USDA: "Port-of-entry inspections have shown that the khapra beetle can contaminate and be transported to this country with a seemingly endless variety of products, some having no attraction for it as food material. Its habit of seeking hiding places in and on these products, where it can remain quiescent for incredibly long periods of time, makes it one of the most difficult plant pests to detect and cope with in plant quarantine inspections. Light infestations are particularly difficult to find in empty holds and the storerooms of vessels because of the insect's habit of secreting itself in cracks and crevices."

Incoming Cargoes

"On incoming cargoes, the pest is commonly found in the ears and seams of the burlap bags and wrappers. The contaminations appear to result from storage in infested premises in the countries of origin, from shipping in infested carriers, or from sacks used previously for products infested with the khapra beetle." "Records show that without exception, infested cargoes originated in the Eastern Hemisphere. Infested cargoes have come from Ceylon, India, Pakistan, Iran, Sudan, Nigeria, the Netherlands, Portugal and England."

"The insect has been found at ports of entry on such diverse commodities as gum karaya, gum arabic, seedlac, baled bagging, crude guar meals and hulls, cotton card strips, tumeric roots, baled crepe rubber, automobiles, steel wire, steel beams, kegs of bolts, metal drums, and even on soiled linen and oil paintings. It has been intercepted on cargoes known or suspected as being hosts such as rice, myrobalan nuts, peanuts, cumin and poppy seeds, guar embryos, and dried animal skins."

Of particular interest to the grain trade is the recent announcement by USDA that locations at which the Khapra beetles were found include the St. Lawrence Seaway ports of Duluth, Ashtabula and Cleveland, Buffalo and the seaports of San Francisco and San Pedro, New York, Philadelphia, Baltimore, Houston, Wilmington, and Charleston.

The khapra beetle is native to India, Ceylon and Malaya, but has been introduced and become established in Europe, Africa, Asia and Australia, including England, Holland, Germany, France, the U.S.S.R., China, Japan, Korea, Philippine Islands, Madagascar, Syria, Egypt, Iraq and Nigeria.

Most destructive insect pests of stored grain are cosmopolitan in dis-

tribution, having been carried through commerce to all parts of the globe. Undoubtedly, the khapra beetle has been introduced into the U.S. many times. However, it was not until November 1953 that it was definitely reported to have established a foothold.

It is now known that it was present in the San Joaquin Valley in California as early as 1946, at which time a warehouse company at Fresno sustained damage to stored grain by a dermestid beetle, then thought to have been the black carpet beetle. That it may have been established in California even earlier than this is suggested in a letter received from Perez Simmons of the USDA at Fresno, dated July 28, 1960, in which he states: "In February, 1939, an acquaintance brought in Trogoderma from wheat collected in Madera County, Cal." The beetles were tentatively identified as T. versicolor, but, on re-examination, were identified as the Khapra beetle.

Apparently through the movement of commercial agricultural commodities, or other articles of commerce, it spread through Southern California and Arizona and to the eastern border of New Mexico before its identity was established. It was later found in Texas and in the Republic of Mexico.

Quarantine Measures

During 1954 and January, 1955, quarantine measures were adopted by the states of Arizona, California, Colorado, Georgia, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah and Wyoming. On Dec. 1, 1954, a hearing was held in Denver on the advisability of a federal quarantine against the khapra beetle. This quarantine was made effective on Feb. 21, 1955.

A joint eradication program, in which USDA, the states and property owners participate, has been in progress since that time and appears to be nearing success.

According to the Plant Pest Control Division of USDA, as of June 30, 1960, all known infestations in the U.S. and Mexico had been fumigated.

The number of properties found infested and fumigated since the beginning of the program in 1955 are: Arizona 242, California 341, New Mexico 19, Texas 28 and the Republic of Mexico 87, representing a cubic content of 170,945,254 cu. ft. All of the formerly infested properties except three in Texas have been released from quarantine regulations.

A procedure for eradicating the khapra beetle from individual premises was developed by the California Department of Agriculture with some assistance from the USDA, in which entire buildings are covered over with plastic film and fumigated with methyl bromide. As a part of the procedure, all litter and trash near the buildings are cleared up and adjacent ground sprayed with residual and contact sprays. The procedure as originally developed was described by Armitage (1955).

Future Spreading

The khapra beetle has but feeble powers of locomotion. It is spread largely through the avenues of commerce. It is obvious that if allowed to spread, it could be a major pest in seed establishments, feed mills, malting houses, flour mills, powdered milk factories, cereal plants, grain elevators, nut storages and packing plants, warehouses handling dried food products, and in farm grain storages anywhere in the U.S. where normal temperatures and humidities within these establishments would permit its development.

Data on the biology and ecology of the khapra beetle obtained by workers at the University of California Citrus Experiment Station at Riverside have provided information used as a basis for speculation as to the possible spread of this pest through the grain-producing areas of the U.S.

Howe and Lindgren (1957) made an estimate of the suitability of an area for the khapra beetle by studying summary tables compiled by the U.S. Weather Bureau. The method used was to count the number of months for which the average temperature was 68° F. or higher, since the lower development of the insect is about 70° F.

They considered that the beetle is not likely to multiply sufficiently to be a problem unless the average temperature exceeds 68° F. for a period of at least 4 mos. This is so over most of the southern half of the U.S. If an average of 68° F. is exceeded for 6 mos. or more, the khapra beetle is potentially a serious pest, and these conditions are experienced in California, Arizona and along the Gulf

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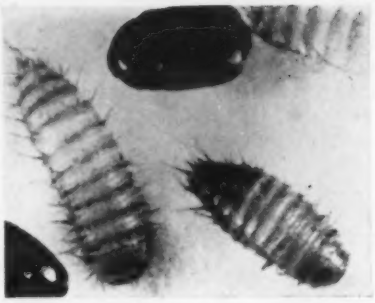

THESE KHAPRA beetle adult and larvae are brownish black in color and measure about one-eighth inch in length. The female may lay over 100 eggs which hatch in 5 to 16 days. The larvae, about one-quarter of an inch in length when full grown, have alternate patches of yellow and yellowish brown skin covered by brown hair.

Coast from Texas to Florida. The picture, as determined by temperature, has to be modified by considering relative humidity, for at humidities over 50% the khapra beetle does not compete successfully with the rice weevil in stored grain.

They conclude that on climatic conditions, the only states needing to fear rapid multiplication of the khapra beetle over a wide area are California, Arizona and Texas. Nevada, New Mexico, Oklahoma and Kansas have areas in which the species could also increase considerably.

Where storage environments are independent of outside temperatures, such as in heated buildings, or when insects cause the heating of commodities, conditions can be favorable for the establishment and increase of this insect. This is shown by the fact that in England, where climatic conditions are unfavorable to the khapra beetle, it is a serious pest in maltings.

In South Africa, which like much of the U.S. is only marginally suitable for the insect, the khapra beetle has invaded grain storages, probably taking advantage of the heating of the grain induced by other grain-infesting insects.

Repeated surveys are made by government officials in the four infested states and the Republic of Mexico, and in principal storage areas throughout this country, to determine the presence of infestations of the khapra beetle. Because of the recent increase in the number of interceptions at ports along the St. Lawrence Seaway, inspections have been intensified in this area, particular attention being given to all warehouse and port facilities along the Seaway.

To prevent the future spread of this insect to grain-producing and storage areas it is urgent that farmers, grain dealers and others be on the alert for the appearance of this insect. The most noticeable features of an infestation by the khapra beetle are the larvae and cast skins as they appear in countless numbers on the surface of bulk grain, in cracks and crevices of buildings used for grain storage, and in the seams and ears of sacked host material.

Larvae Color

The visible larvae are yellowish brown and clothed with long brown hairs. The integument between the segments and the underside of the body is pale yellow in color. Viewed from above, the yellowish brown segments and paler skin separating them give the larvae a ringed appearance. The young larva is about 1.8 mm. in length. As it matures it increases in length to between 3.0 and 4.0 mm.

The adult Khapra is a small beetle 1.8 to 3.0 mm. in length, the females often being twice the size of the males. They are pale red-brown to dark brown or black in color. According to Lindgren and Vincent (1959) a single generation from egg to adult can be completed in from 1 to 2½ mos. at 90° F., the length of the period being influenced by the food supply. At lower temperatures the length of the life cycle increases; however, relative humidity has but little effect on the length of the development period.

Unlike the majority of dermestids, the khapra beetle prefers grain and cereal products to substances of animal origin. A major pest of wheat and barley, it attacks grains of all kinds, nut meats and such cereal products as flour, malt, and noodles. It attacks seeds of all kinds of alfalfa hay, and will develop in animal remains, dried blood, dried milk and other animal products. Apparently there is little in the way of dried vegetable and animal products that it will not attack.

Anyone finding infestations that are at all suspicious should report them to state or federal plant pest control inspectors or to their county agents. «

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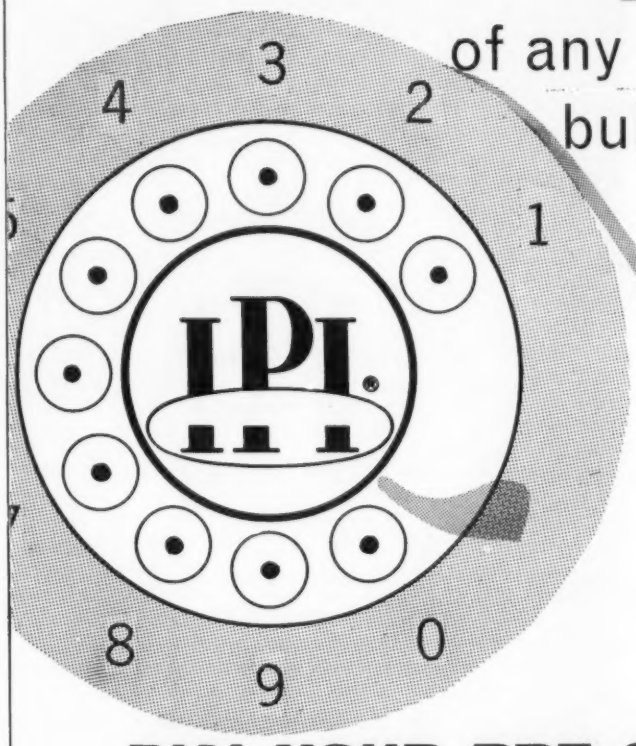

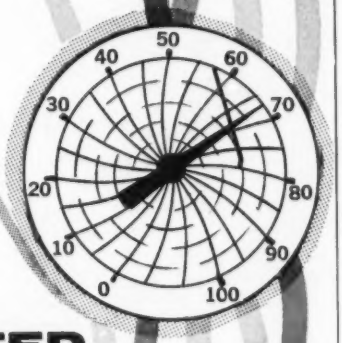

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A Milling Technology Feature

FIGURE I
Dry Milling Equipment at the Northern Regional Research Laboratory

Fractionation of Omar-Brevor Wheat Flour From the Pacific Northwest

By V. F. PFEIFER, A. C. STRINGFELLOW and E. L. GRIFFIN, JR.

Probing of the basic structure of flour continues to give increasing promise of new, ready-made grades and qualities for the time-honored baking industry and an ever greater number of other users.

At the Northern Regional Research Laboratory in Peoria, air-classified fractions of flour are reconstituted, blended to the levels desirable for various bakery products, studied and then turned over to other laboratories for test baking.

Dry-milling studies on cereal grains were initiated at the Northern Regional Research Laboratory in 1959 when an extensive experimental milling pilot plant was installed. The general objective is to produce selected constituents or grain fractions that can be used on the basis of their specific properties or that can be converted to products suitable for large-volume industrial outlets and expanding markets.

Applications of fine grinding and air classification of typical wheat flours have already been reported by Pfeifer and Griffin.*

The milling industry in the Pacific Northwest, as well as wheat grower associations, has expressed considerable interest in the benefits that could be derived by fractionating soft white and club wheat flours from that area by fine grinding and air classification to obtain new products for food and industrial application.

Omar and Brevor white winter wheats, which account for over half the wheat grown in the Pacific Northwest, are often mixed together during marketing and for milling. It was hoped that fractionation of a typical Omar-Brevor flour would yield a high-protein fraction of value in bread making, and low-protein fractions suitable for industrial use.

Some work in fine grinding and air classification of Pacific Northwest wheat flours reported by Adair and Obermeyer,** indicated that the Omar variety was rather unsatisfactory for the production of a high-protein fraction by these methods. The present report describes the fractionation by air classification of a commercial Omar-Brevor flour both as-milled and after repeated fine grinding, with yields and range of high- and low-protein fractions obtained.

Procedure Described

The soft white winter wheat flour used in the pilot-plant experiments was a commercial straight grade flour milled especially for pastry use from Omar wheat predominantly, but containing some Brevor wheat. It was reground in an Alpine 160Z Kolloplex pin mill, and classified in a Pillsbury laboratory-model classifier. Particle-size distribution of as-milled and reground flours, and of most fractions produced by classification, was determined in a Sharples Micromerograph air-sedimentation apparatus. Fig. I. shows the equipment used in the experiments.) The equipment and its applications to various soft and hard wheat flours have been described.**

The Omar-Brevor pastry flour contained 6.6% protein and .46% ash (14% moisture). Fifteen-pound portions of the flour were fractionated as-milled and also after regrinding by three passes through the pin mill at 14,000 rpm. Each flour was separated into eight fractions by collecting a fine fraction, readjusting the classifier for

*Pfeifer, V. F., and Griffin, E. L.—Fractionation of Soft and Hard Wheat Flours by Fine Grinding and Air Classification; The American Miller & Processor, Vol. 88, No. 2, pp. 14-20 (1960).

**Adair, J. B., and Obermeyer, H. G.—Differing Response of Soft Wheat Varieties to Air Classification; The Northwestern Miller, Vol. 262, No. 10, p. 3a (1959).

a coarser cut, passing through the coarse fraction and repeating the procedure until seven fine fractions and one coarse fraction remained. Because of the large number of fractions taken and the intensive flour regrinding employed, separations are near the maximum possible when using this type of flour and this technique. Particle-size distributions of the three finest fractions from each flour were determined by the gravity sedimentation pipet method, using benzene as the sedimentation fluid.** The air-sedimentation apparatus was used for the remaining fractions. Particle size is reported in terms of mass median diameter (MMD)—the diameter at which 50% of the weight of the sample is undersize.

Results of the fractionation are given in Table I, and the variation of protein content of the various fractions with yield is given in Fig. II.

From the as-milled flour a yield of only 3.4% was obtained in the finest fraction, and this contained 18.9% protein; from the reground flour a yield of 11.6% was obtained at 18.5% protein. Ash was highest in the fine fractions, dropped progressively with protein content during classification, and increased in the coarse residue. Maltose values were highest in the fine fractions, and dropped progressively during classification to values below those of the original flour.

Range Increased

Regrinding the flour before classification increased the range of compositions of the fractions and also increased the yields of high- and low-protein fractions. In terms of a fine fraction containing 18% protein, a yield of 5% of the original flour was possible from as-milled flour, and a yield of 13% from the reground flour. Since the Pillsbury laboratory classifier incorporates what amounts to an impact mill as the flour disperser, considerable grinding of the as-milled flour occurred during passage through the classifier; about one half of the over 40-micron portion was reduced

The quest continues to increase cereal grain utilization to meet industrial needs for tailor-made products, modifying nature's own efforts where necessary. One primary area of research is fractionation of flour, and one place, among others, is the Northern Regional Research Laboratory, Northern Utilization Research and Development Division, Agricultural Research Service, U.S. Department of Agriculture, Peoria, Ill. The authors wish to make it clear that mention of firm names or trade products does not imply endorsement or recommendation by USDA over other firms or similar products not mentioned.

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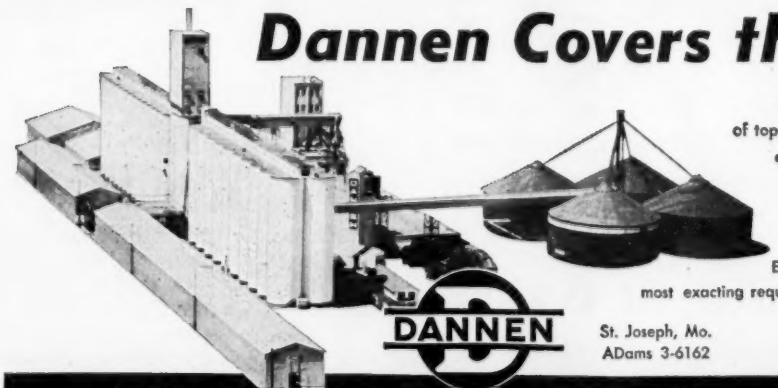

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below 40 microns during classification. Because of this grinding action as the as-milled flour was recycled to obtain successive fractions, the protein separation was improved.

The average protein content of the high-starch fractions from reground flour (Fractions 4-7 inclusive) was 2.8% (14% moisture); the fractions amounted to about 63% of the original flour. When starchy fractions amounting to 68% of the original flour and containing 3.1% protein were reprocessed by mixing, regrinding once at 18,000 rpm. and reclassifying, fractions amounting to 53% of the original flour were obtained with an average protein content of 2.0% (Table II). When a starchy fraction amounting to 16% of the original flour and containing 2.6% protein was reprocessed in the same manner, fractions amounting to 13% of the original flour were separated with an average protein content of 1.5% (Table III). Low-protein fractions produced from Omar-Brevor flour should be suitable for many industrial applications.

Various air-classified fractions from this Omar-Brevor flour were reconstituted and blended to the levels desirable for bread, cake and cookie baking—11.5%, 6-8% and 7-9%, respectively. The suitability of these reconstituted flours for baking is being investigated by USDA's Western Regional Research Laboratory at Albany, Cal., and results will be reported when the research work is completed. «

TABLE I

FINE GRINDING AND AIR CLASSIFICATION OF OMAR-BREVOR WHEAT FLOUR

(All figures on 14% moisture basis)

Kind of flour and fraction No.	Protein, %	Ash, %	Maltose value	MMD, microns	% of Flour
As milled flour	6.6	.46	140	25	...
Fraction 1	18.9	.67	269	6	3.4
Fraction 2	14.1	.63	...	8	5.9
Fraction 3	11.2	.54	246	9	7.3
Fraction 4	4.4	.38	...	16	24.0
Fraction 5	3.9	.29	145	17	12.8
Fraction 6	3.6	.38	...	19	14.7
Fraction 7	4.8	.43	...	22	10.4
Fraction 8	7.3	.47	95	57	21.5
Reground—3 passes	6.7	.46	162	16	...
Fraction 1	18.5	.81	248	7	11.6
Fraction 2	12.2	.65	...	8	9.1
Fraction 3	9.0	.52	205	10	11.0
Fraction 4	3.1	.36	...	18	26.6
Fraction 5	2.6	.32	127	19	10.9
Fraction 6	2.3	.31	...	20	14.4
Fraction 7	3.2	.36	...	21	10.9
Fraction 8	5.6	.58	129	28	5.5

TABLE II

LOW-PROTEIN FRACTION FROM OMAR-BREVOR WHEAT FLOUR PRODUCED BY REPROCESSING A BLEND CONTAINING 3.1% PROTEIN

(All figures on 14% moisture basis)

Kind of flour and fraction No.	Protein, %	MMD, microns	% of Original flour in fraction
Reground blend	3.1	18	68.2
Fraction 1	12.7	10	4.2
Fraction 2	5.1	15	11.0
Fraction 3	2.4	19	18.2
Fraction 4	1.8	20	10.2
Fraction 5	1.7	22	12.5
Fraction 6	1.8	23	12.1

TABLE III

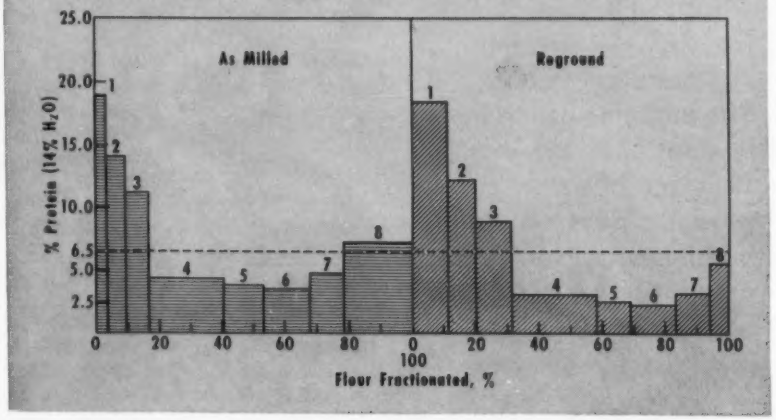
LOW-PROTEIN FRACTION FROM OMAR-BREVOR WHEAT FLOUR PRODUCED BY REPROCESSING A FRACTION CONTAINING 2.6% PROTEIN

(All figures on 14% moisture basis)

Kind of flour and fraction No.	Protein, %	MMD, microns	% of Original flour in fraction
Reground fraction	2.6	19	15.7
Fraction 1	14.7	10	0.6
Fraction 2	5.0	16	1.4
Fraction 3	1.9	18	3.9
Fraction 4	1.5	19	2.8
Fraction 5	1.4	19	4.0
Fraction 6	1.4	20	3.0

FIGURE II

Fractionation of Omar-Brevor Flour from Pacific Northwest



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Book Review:

AACC Compiles Farinograph Handbook As Aid, Reference Work for Testing

Copies of the Farinograph Handbook, which served as text material for the 45th annual meeting of the American Association of Cereal Chemists in Chicago earlier this year, now are available under a single cover.

The handbook, six months in the process of organization and writing as a direct result of some superb AACC committee work, actually is a "do it yourself" guide for the farinograph. It is equally a vital source of theory and reference material on the subject of farinograph testing and operation, the only text of its kind since publication in the early 1930's of C. W. Brabender's "Flour Physics." The Brabender work, of course, dealt not only with the farinograph but also with flour characteristics of dough.

Copies Distributed

A few copies of the handbook were available last May after AACC concluded its meeting, but they were distributed so rapidly—because of demand—that AACC set to work actually publishing the material.

Those who prepared material for the workshop were formed into a committee, with Stephen J. Loska, Jr., the Pillsbury Co. (now with National Dairy Research Corp., Glenview, Ill.), as chairman. Mr. Loska also wrote the preface. With him on the committee were William C. Shuey, products control, General Mills, Inc., and Lawrence Locken, Russell Miller-King Midas Mills. Others played a considerable part in pushing forward the work, and to these Mr. Loska gives grateful appreciation in his preface.

Mr. Shuey, who was chairman of the workshop, has prepared the introduction. In it he traces the earliest efforts toward dough and flour testing, explains the initial types of dough testing instruments, and goes into recent developments in the field.

The handbook itself "starts from scratch" by explaining the construction, purpose and operation of the farinograph as a physical dough testing instrument of the dynamic type. Carefully written, concisely and carefully edited, it uses simple tables and illustrations to explain what the farinograph can do under varying conditions.

Considerable attention is given to explaining all component parts, with photographs and diagrams, then dealing with more complex operations as the handbook moves along.

Where necessary, attention is given to the work of those who have used the farinograph over the years, explaining their results in detail.

It concludes with a selected reference list of written material about the farinograph that has appeared in AACC's publication, Cereal Chemistry.

Copies of the handbook are available from AACC, 1955 University Ave., St. Paul 4, Minn., at $5 each. «

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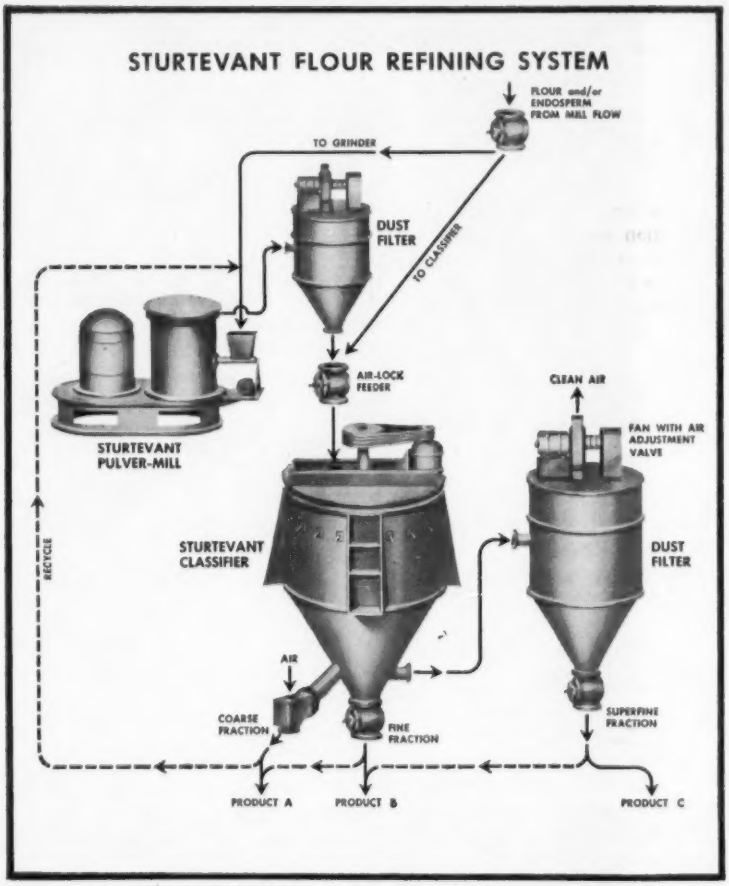
New Sturtevant Flour Refining System is Highly Flexible, Makes Precise Separations



Key to the Sturtevant Refining System shown above is a Sturtevant Air Classifier which can produce 3 kinds of flour in one operation. Both the Pulver-Mill and the Air Classifier have exceptionally large capacities.

For protein shifts... Primary classifications.. Coarse or fine separations for new end products

Sturtevant's new flour refining system is the result of 44 years of experience engineering classification systems for food and other industries.

Heart of the special system is a Sturtevant Air Classifier which classifies coarse, fine and superfine fractions. Low volume of air requirements means smaller dust filters. Thus savings in both space and costs are effected.

The Classifier makes precise selections of end products by means of exact control of air currents and centrifugal force. Simple adjustments in counter action between these two forces permit the receipt of almost any desired particle size.

Operation of Sturtevant's new flour refining system is highly flexible. The Pulver-Mill and Air Classifier can be used singly or together, in accordance with individual grinding-classifying needs.

CALL ON STURTEVANT to help you upgrade your milling system while lowering production costs. Sturtevant Flour Refining Systems offer much higher output capacities than are available elsewhere, yet require only ⅓ as much capital investment.

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Variable-Speed Sheaves

T. B. Wood's Sons Co. has added two sizes of its "MS" variable speed sheaves to its line, both with maximum pitch diameters of 10 in. As a result, the manufacturer states pulleys can be made to run indefinitely at set speed without freezing from

fretting corrosion. Under conditions of normal operation, the oil reservoir will require checking only twice a year. "MS" variable speed pulleys incorporate a design that eliminates freezing and sticking as well as fretting corrosion. There are no keys in the bearing surfaces to establish constant point-contact and obstruct lubrication. It is claimed that use of the V-groove companion sheave results in higher rpm and greater horsepower output than can be achieved when flat companion pulleys are used.

Circle No. 4619
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Storage Brochure

Storage for tabulating cards and magnetic tapes is available in a wide variety of sizes and models according to a brochure published by Remington Rand Division, Sperry Rand Corp. The brochure also illustrates a variety of available tabulating card filing guides. In addition to the customary vertical tabulating card file, the brochure illustrates and describes the latest in mechanized filing equipment and the insulated units which protect cards from destruction by fire. Mechanized equipment includes the Kard-Veyer Unit and the Conve'-Filer Unit. Several types of magnetic tape storage units are illustrated. These include the horizontal housing with individual bins which swing outward; two types of magnetic tape truck, one of which also provides housing; and divider type shelving.

Circle No. 4620
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Bulk Controls Brochure

Flo-Tronics, Inc., through its electronics control division, has summarized information about its various controls in a handy brochure now available. Diagrams illustrate the various uses, with appropriate explanation. Included are descriptions of controls for process automation, movement of materials—including a program for starting, stopping, timing, sequencing, batching and mixing—and for quantity measurement. The brochure explains how Flo-Tronics' engineers handle the entire task of providing a control system for the specific plant under study.

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Palletless Handling

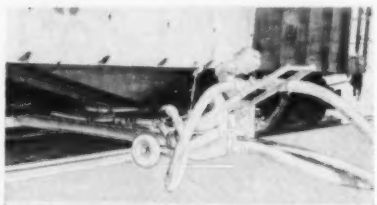
A fork truck attachment for the palletless handling of bagged materials has been developed by the industrial truck division of Clark Equipment Co. The attachment consists of two scoop-shaped arms hydraulically

actuated to clamp bags. A side shifting mechanism also is incorporated to speed pick-up and place-down of loads. Scoop arms are 45 in. in length and can be spread 67 in. in width or clamped to 17 in. Arm slides are fully bushed to insure long, trouble-free operation, states the manufacturer. The attachment has a maximum capacity of 3,500 lb. and is designed to fit all Clark fork trucks.

Circle No. 4622
on Reply Form for Details

'Portaflow' Unloader

Sprout, Waldron & Co., Inc., has available a brochure on its "Portaflow" portable pneumatic unloader. "Portaflow" is said to be most efficient and economical for unloading Airslide cars in the shortest possible time. It



is available for directing material to Permaglas structures and other storage units with the least care and attention, say the manufacturers. The brochure illustrates how the system operates from car to storage, has photographs of the assembly ready for attaching, and close-up photographs of some of the component parts.

Circle No. 4624
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Long Cone Collectors

A line of aerodynamically designed, long cone collectors has been developed by the equipment division of Archer-Daniels-Midland Co. The collectors range in size from 36 to 108 in. and are constructed of sturdy 12 and 14 gauge steel, depending on size. Special requirements can be met with the flexible design of the ADM collectors. For additional information request ADM bulletin 3001.

Circle No. 4623
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Gump Catalog

A catalog for the milling, food and chemical processing industries has

been made available by B. F. Gump Co. It gives a condensed presentation of the complete line of Gump equipment for these industries. Included are illustrations, specifications and engineering data. These cover feeders, continuous mixing systems, rotary sifters, net weighers, packaging equipment, roller mills, packers and elevators, among others. Copies of Catalog 806 are available upon request.

Circle No. 4625
on Reply Form for Details

Sanitation Tools

The Huge Co. Inc., is offering a handy, illustrated booklet of its 1960 sanitation tools designed to raise the plant sanitation level and to lower costs. Explained are such products as a residual tank type sprayer for insects, a convertible plant vacuum cleaner, an ultra violet lamp for detection of rodent urine and other plant inspectional uses. The folder contains a price list and order blank for the products and equipment listed. All of the methods, materials and equipment are laboratory or field-tested in order to provide a definite cure for specific sanitation problems.

Circle No. 4626
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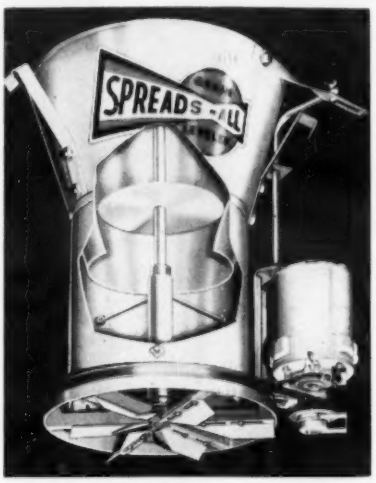
Grain Leveler

Lennox Industries, Inc., announces the addition of a grain leveler to its line. Known as the "Spreads-All," this ¼ h.p. motor driven device mounts in the top of a grain bin and fills the bin evenly by spreading grain over the entire bin during the filling operation. The "Spreads-All" eliminates need for hand scooping of grain, especially in large bins, eliminates trash pockets that retard drying and aeration, under the filler opening and, when a fan is used on the bin during the filling operation, it acts as a grain cleaner by permitting the chaff and dirt to be blown out the top. Motor speed is adjusted through a variable pitch pulley by means of an adjusting



arm which locks at the top. Adjustable vanes on the bottom spreader wheel adapt the "Spreads-All" to different sized bins while raising the center disc increases the capacity. The "Spreads-All" will work on bins from 14 ft. to 36 ft. in diameter and will handle all types of grain.

Circle No. 4627
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Bulletin on Pallets

Power-Curve Conveyor Co. is offering a bulletin on its system of "in-the-car" palletizing method for bagged products. The system, it is reported, enables one man to pallet-load a 25-ton boxcar or 20-ton truck in less than an hour. Pallets are lined against the car walls and laid flat as loading progresses, or are placed in shipping position and a Power-Curve flexible loader walked under power into the end of the car over the pallets. Wide tread pneumatic wheels on the loader permit use of wood pallets. An automatic gluing attachment may be used to prevent load shifting in transit. Push-buttons control loader movement into car ends, the bag travel and direction and stacking height. Palletizing speed is up to 24 bags min. with one operator. A truck can be loaded, it is claimed, with 500 bags in 30 min. or less. Any pattern of palletizing is possible with this high speed equipment, it is claimed. The bulletin which describes the system is No. 30.

Circle No. 4628
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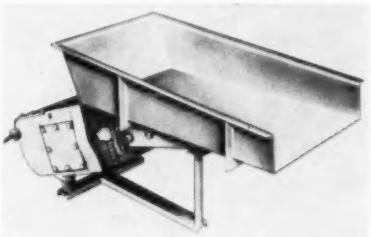
Light Duty Feeder

Syntron Co. has developed a light duty, vibratory feeder, its Model F-212, capable of feeding almost all dry, bulk materials from light, fine powders to heavy, coarse granular bits and



chunks, up to 50 ft. min. An electromagnetic drive unit, which includes the spring system, is completely enclosed. It is dust, moisture and splashproof, says the manufacturer. The high-speed vibratory feeder can be fitted with various sizes of flat plan or tubular troughs, either of carbon or stainless steel. It is furnished complete with control box, for operation

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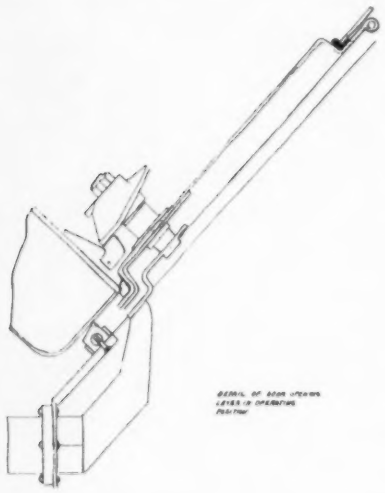
Automatic Bin Opener

Tote System, Inc., announces addition of an automatic door opener to its line. Serving a dual purpose, the door opener enhances ease of operation of the system and brings into play the labor savings emphasized by the



system as a whole. Until introduction of the automatic door opener, the bin, airtight while storing material, was opened by an operator with a ratchet handle after it was placed on the Tote Tilt. Now the built-in device in the Tote Tilt fits into the bin door when it is placed on the mechanism and, as the bin is tilted, the bottom discharge door is automatically opened.

Circle No. 4630
on Reply Form for Details

Control Instruments

United States Gauge's line of pressure gauges, thermometers and control instruments, usable in a wide range of industries including food processing, is described in a new bulletin issued by the firm. Control instruments included are indicating controllers, valve positioner and pilot options, recorders, chemical attachments and accessories. Included under temperature measurement are dial and glass tube thermometers, panel type and multi-angle thermometers. Pressure gauges described are the bourdon-tube type covering a wide variety of industrial applications.

Circle No. 4631
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Pallet Lift Truck

Load capacities up to 4,400 lb. are possible, it is claimed, with the BT Equipment Co.'s BT hydraulic pallet lift truck. Four models are available, with maximum wheel base of 72 in. A hand-operated hydraulic lift responds in 3 to 5 motions to raise full capacity loads from 3¼ to 8¼ in. Wheels are easy-rolling, ballbearing types and controls are easy-to-reach foot pedals. The truck is said to be highly maneuverable in tight spaces, permitting one man to handle capacity loads with ease and a minimum amount of energy.

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Conversion Chart

Precision Equipment Co. is offering without charge a handy wall chart reference table of common conversion factors such as inches to centimeters, watts to horsepower, and

others difficult to locate in reference manuals. The chart affords easy conversion of such hard-to-find examples as cubic feet to liters, microns to meters, quintals to pounds, etc.

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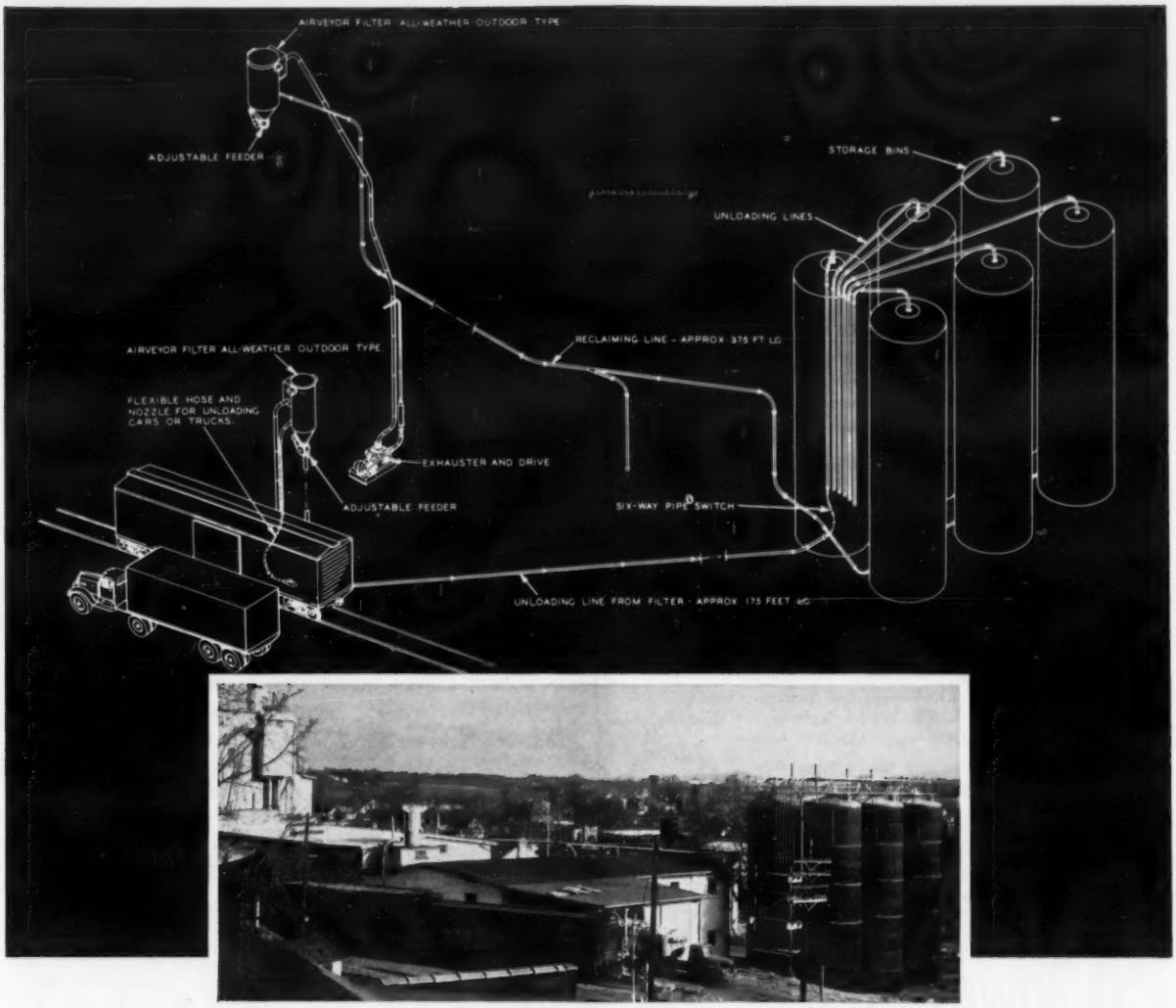
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If you are now handling dry, bulk, granular materials, it will pay you to look into Fuller pneumatic conveying systems. Fuller systems are engineered specifically for your particular application. They bend around corners, run up or down, through walls and floors, almost any distance—even underground. Write or phone today outlining your problem. Fuller will gladly furnish additional information with appropriate recommendations.

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Dallas Will Roll Out Red Carpet for AACC's Annual Meeting in 1961

Some of the cereal industry's top problems and topics will be given a thorough working over in Dallas, Texas, next April 9-13. Circle those dates—they cover the 46th annual meeting of the American Association of Cereal Chemists to be held at the Baker Hotel.

With John A. Johnson of Kansas State University, AACC president presiding, the program will swing into action on such key topics as pesticide residues, flavor research, feed technology, yeast chemistry and technology, continuous breadmaking, and starch chemistry.

Added incentive to attend, virtually a "must" for cereal scientists concerned with their strategic role in national survival, will be a civil defense training course in Dallas.

Byron S. Miller, K-State University, program chairman, is lining up speakers and papers for AACC's annual meeting, while Hugh J. Fetty, American Foods, Inc., Dallas, will see that the community extends its renowned Texas welcome to AACC.

Technical sessions begin the afternoon of Monday, April 10, with two concurrent programs. Those wishing to present papers should contact the sessions chairman immediately. Deadline for submitting titles is Dec. 25.

Sessions Scheduled

These sessions have been scheduled:

"Pesticide Residues in Cereal Products," Warren O. Edmonds, American Cynamid Co., Kansas City; "Flavor Research," Lazare Wiseblatt, American Institute of Baking, Chicago; "Feed Technology Session No. 1," Robert C. Wornick, agricultural research department, Chas. Pfizer & Co., Inc., Terre Haute, Ind.; "Chemistry and Technology of Yeast," Gerald Reed, Red Star Yeast & Products Co., Milwaukee; "Feed Technology Session No. 2," Max L. Cooley, Hoffman-Taff, Inc., Springfield, Mo.; "Continuous Breadmaking," Oscar Skovholt, Quality Bakers of America, Inc., New York;

"Starch Chemistry," R. M. Sandstedt, department of biochemistry and nutrition, University of Nebraska, Lincoln; general session, Frank R. Schwain, bulk food technical services, Procter & Gamble Co., Winton Hill Technical Center, Cincinnati; "Chemistry and Technology of Flour," Kenneth Gilles, General Mills, Inc., Minneapolis; "Useful Laboratory Techniques and Gadgets," Lawrence L. Warren, Commander Larabee Milling Co., Kansas City, and "Laboratory Layouts," Grant W. Pearcy, the Pillsbury Co., Minneapolis.

• • •

Civil Defense Course To Follow AACC Session

If "The Bomb" falls it could be on the U.S.—land of the free and the nuclear rubble—in time of all-out atomic attack.

Food and shelter would instantly become premium factors, jealously prized and ruthlessly sought by all in the smashed areas. Who would there be to say, "This food is contaminated," "This morsel can be eaten"?

Cereal chemists who attend the 46th annual AACC convention in Dallas, Texas, April 9-13 will have an opportunity to learn the vital facts of survival.

The Food and Drug Administration will present a

civil defense training course for the food industry in Dallas April 13 and 14 following AACC's annual sessions. Sponsors will be the Dallas City-County Civil Defense Office, AACC and FDA.

The Office of Civil Defense and Mobilization's "Ten Steps for Survival of Industrial Plants following Disaster" will be presented, along with other vital information about how to reduce the vulnerability of food plants to open or secret attack by radiological, biological or chemical agents.

John A. Johnson, AACC president, has been in close contact with M. J. McConnell, director, Civil Defense Training Program, Bureau of Program Planning and Appraisal, Department of Health, Education and Welfare, Washington.

The AACC president has obtained detailed information about what cereal chemists will see, hear and learn when they attend the civil defense training program.

One vital subject expected to come up during the course of training is monitoring of radiation intensity.

The problems to be covered at the sessions involve protection of food after attack, salvage of contaminated food, safe destruction of contaminated food which is beyond salvage, hazards of R.B.C. agents used in sabotage or open attack.

Methods of Monitoring

Cereal chemists will be advised of the three types of monitoring of radiation intensity:

1. Monitoring where an individual is located during survival period. This would involve the time during and following an actual attack. This period could last from several hours to a week. The monitoring can be done both inside and outside a shelter area (any place other than in the open).

The home shelter radiation instrument kits now available for approximately $20 will be demonstrated during the training course. These consist of a rate indicating instrument, a pocket dosimeter, and a dosimeter charger. The rate indicating instrument is essentially a pocket dosimeter which has modified scale readings to indicate the radiation dose rate if the time of exposure of the instrument is known.

2. Monitoring the radiation intensity of areas where one might have to pass through or enter to do salvage work when food is in extremely short supply. Civil defense personnel will demonstrate the V-710 C.D. ion chamber which reads dose rates up to 50 r/hr.

Instantaneous Reading

This reading is almost instantaneous and does not involve the exposure of personnel for a hazardous period of time. The V-720 C.D. ion chamber, which reads two kinds of radiation at dose rates up to 500 r/hr., also will be demonstrated. It is used for the same purpose as the V-710 and its higher range makes it a more practical instrument for use following an atomic attack.

3. Monitoring of the radioactivity in and on food or on the packaging materials following atomic attack. The FDA's civil defense people will demonstrate the calibration of the V-700 C.D. Geiger counter for use in testing food for safe use for 10 days, 30 days, and indefinitely.

Such monitoring can be done only in a place where background radiation is of relatively low order or where adequate shielding can be provided.

Field Monitoring

Field monitoring as such for use in the preparation of isodose rate charts will undoubtedly be done by the ever-growing force of fixed and mobile monitors now being established. However, some of FDA's instructors

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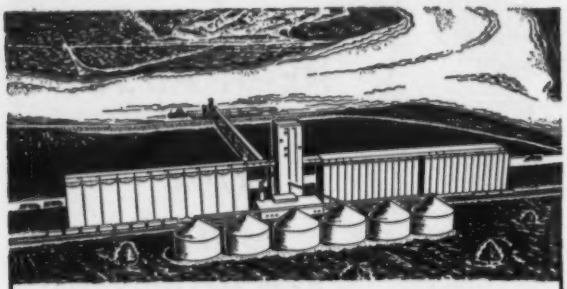

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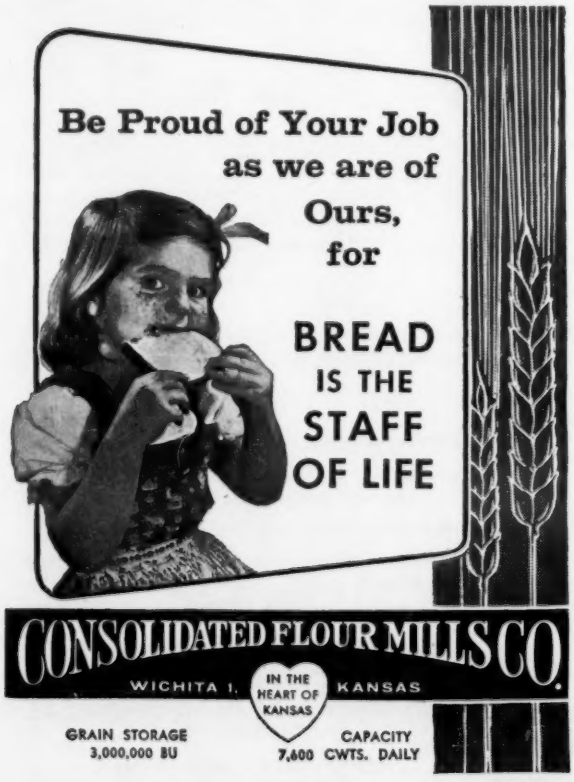

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actually have done this work under field conditions following detonation of an atomic bomb—and they will be available in Dallas to answer any questions concerning that monitoring at the time of the course.

A large fallout shelter is under construction at Denton, Texas, and though not expected to be completed by the time the annual AACC meeting rolls around, efforts will be made to visit the site.

• • •

10 Steps for Survival

Without These... Destruction

THESE are the "10 Steps for Survival" compiled by the Office of Civil and Defense Mobilization, and which will be presented to AACC members who attend the civil defense training program in Dallas, Texas, April 13 and 14:

1. **Organization and planning for self-protection:** Communications will be given high priority in the presentation of this step.

2. and 3. **Plans for evacuation and provisions for shelters:** Shelters and evacuation of small cadres of key personnel will be stressed.

4. **Plans for continuity of management:** The preparation of a line of succession and a plan of operation during and immediately following disaster are included.

5. **Preservation of vital records and documents:** The problem of how and where to store these records has been well worked out by certain industries and some government agencies. Examples of their solutions will be presented.

6. **Plan for emergency repair and restoration:** This very difficult step will be discussed and suggestions offered for temporary rapid repair of plants and equipment and emergency operations.

7. **Establish a plant security system for the prevention of sabotage and espionage:** This is one of the most important steps in industrial survival. The problems involved will be discussed and partial solution offered. The need is so great in this area of hazard that any effort to remove or reduce the hazards will be helpful in correcting the present critical situation.

8. **Establish industry mutual aid associations for civil defense:** Some of these have already been so well organized and rehearsed that they have been able to effect a considerable saving of lives and equipment under natural disaster conditions. There is every reason to believe they would work satisfactorily under wartime conditions. One or more plans will be explained.

9. **Deconcentrate critical production:** While not as applicable to food production as to heavy industry, it can be applied to certain basic raw materials and containers needed by the food industry. Suggestions for the stockpiling of such materials will be presented.

10. **Disperse new plants:** Dispersal of key industries has long been advocated. Suggestions for such dispersal on a long-time basis will be presented.

Members of management in the food industry are requested to encourage their personnel attending the AACC meeting to stay over for the day and a half course. The training course is not restricted to AACC members, but is open to everyone in the food industry wishing to attend.

Further information may be obtained by writing: H. J. McConnell, director, Civil Defense Training Program, Bureau of Program Planning and Appraisal, Food & Drug Administration, Washington 25, D.C. «

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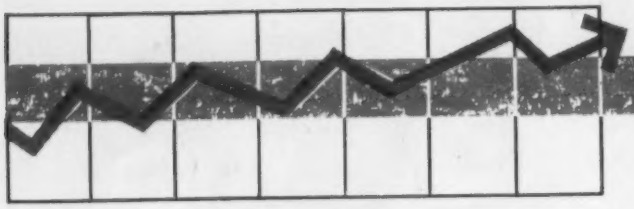


FLOUR PRODUCTION

Readers of The Northwestern Miller for More than Half a Century.

WEEKLY FLOUR PRODUCTION, IN SACKS (CWT.)

Flour production in principal manufacturing areas by mills reporting currently to The Northwestern Miller with relationship of production to capacity and to the total estimated output of all mills in the U.S. expressed in percentages:

	Sept. 25-Oct. 2, 1960	*Previous week	Sept. 27-Oct. 4, 1959	Sept. 28-Oct. 5, 1958	Sept. 29-Oct. 6, 1957
Northwest	815,022	856,099	740,031	787,418	753,020
Southwest	1,522,793	1,519,005	1,368,771	1,530,550	1,424,418
Buffalo	602,078	383,536	542,527	581,307	551,177
Central and Southeast	645,573	687,541	663,314	715,295	621,221
Pacific Coast	467,599	496,746	436,535	486,488	333,415
Totals	4,053,065	3,942,927	3,751,178	4,101,058	3,683,251
Percentage of total U.S. output	81.1	81.1	75	75	75
Estimated total U.S. production	4,997,614	4,861,809			
Accumulated total this month	.....	.....			

*Revised.

	—Percentage of capacity operated in 5-day week—					Crop year flour production ——July 1 to——	
	Sept. 25-Oct. 2, 1960	Previous week	Sept. 27-Oct. 4, 1959	Sept. 28-Oct. 5, 1958	Sept. 29-Oct. 6, 1957	Oct. 2, 1960	Oct. 4, 1959
Northwest	114	120	102	118	108	9,773,490	9,825,663
Southwest	116	116	106	116	108	18,324,742	19,086,529
Buffalo	115	73	110	122	113	5,984,346	6,987,416
Central and S.E.	96	102	103	125	105	8,144,367	8,428,221
Pacific Coast	100	106	94	154	103	5,763,242	6,180,164
Totals	110	106	104	123	108	47,990,187	50,507,993

NORTHWEST

Minneapolis

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	240,000	245,931	102
Previous week	240,000	*219,205	91
Year ago	231,000	207,863	90
Two years ago	237,000	241,480	102
Five-year average			45
Ten-year average			75

*Revised.

Principal interior mills in Minnesota, including Duluth, St. Paul, North Dakota, Montana and Iowa:

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	472,750	569,091	120
Previous week	472,750	*636,894	135
Year ago	494,500	532,168	108
Two years ago	430,500	545,938	127
Five-year average			170
Ten-year average			147

*Revised.

CENTRAL AND SOUTHEASTERN

Mills in Illinois, Ohio, Michigan, Wisconsin, Indiana, Kentucky, North Carolina, Tennessee, Virginia, Georgia and eastern Missouri:

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	672,260	645,573	96
Previous week	672,260	*687,541	102
Year ago	643,750	663,314	103
Two years ago	570,260	715,295	125
Five-year average			105
Ten-year average			107

*Revised.

SOUTHWEST

Kansas City

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	224,250	281,395	125
Previous week	224,250	267,635	119
Year ago	221,750	267,064	120
Two years ago	287,500	263,955	92
Five-year average			175
Ten-year average			152

Representative Mills, Outside of Kansas City (Including Wichita and Salina)

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	1,090,750	1,241,398	114
Previous week	1,090,750	*1,251,370	115
Year ago	1,068,800	1,101,707	103
Two years ago	1,032,000	1,266,595	123
Five-year average			148
Ten-year average			128

*Revised.

BUFFALO

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	522,000	602,078	115
Previous week	522,000	383,536	73
Year ago	493,500	542,527	110
Two years ago	475,000	581,307	122
Five-year average			11
Ten-year average			71

PACIFIC COAST

Principal Mills on the Pacific Coast

California, Oregon and Washington Mills

	5-day week capacity	Flour output	% capacity
Sept. 25-Oct. 2	466,500	467,599	100
Previous week	466,500	*496,746	106
Year ago	466,500	436,535	94
Two years ago	375,000	486,488	154

*Revised.

DURUM PRODUCTS OUTPUT

Durum products output of mills reporting to The Northwestern Miller, in sacks, based on five-day week:

	5-day wk. capacity	Wkly. production	% of capacity
Sept. 25-Oct. 2	177,500	209,951	119
Previous week	177,500	*192,580	108
Year ago	156,500	208,169	133

	Crop year production
July 1-Oct. 2, 1960	2,343,006
July 1-Oct. 4, 1959	2,424,076

*Revised.

Canadian Price Adjustments

Price adjustment figures announced by the Canadian Wheat Board and in effect Oct. 12 were as follows: To U.K. and other European destinations via Canadian and U.S. Atlantic ports, also via St. Lawrence, Churchill, Canadian and U.S. Pacific ports, 5¾d bu.; to other countries, excluding U.S. and territories, from Canadian and U.S. Atlantic ports, 15⅝d bu.; from St. Lawrence, Churchill, Canadian and U.S. Pacific ports, 14¾d bu. The above adjustment prices apply to wheat milled in Western Canada. For wheat milled in the Bayside area the price is [illegible] while for [illegible] Lumberton area [illegible] Toronto and [illegible] less freight [illegible] in the Montreal area.

Production for Sept. 25-Oct. 2 is at the left; production for Oct. 2-9 appears here

WEEKLY FLOUR PRODUCTION, IN SACKS (CWT.)

Flour production in principal manufacturing areas by mills reporting currently to The Northwestern Miller with relationship of production to capacity and to the total estimated output of all mills in the U.S. expressed in percentages:

	Oct. 2-9, 1960	*Previous week	Oct. 4-11, 1959	Oct. 5-12, 1958	Oct. 6-13, 1957
Northwest	838,322	815,022	795,358	794,910	763,889
Southwest	1,493,283	1,522,793	1,504,964	1,519,694	1,447,639
Buffalo	620,129	602,078	509,152	547,030	519,037
Central and Southeast	641,626	645,573	646,111	594,825	572,979
Pacific Coast	427,800	467,599	476,858	537,784	308,919
Totals	4,021,160	4,053,065	3,932,443	3,994,243	3,612,454
Percentage of total U.S. output	81.1	81.1	75	75	75
Estimated total U.S. production	4,958,274	4,997,614			
Accumulated total this month	4,958,274				

*Revised.

	—Percentage of capacity operated in 5-day week—					Crop year flour production ——July 1 to——	
	Oct. 2-9, 1960	Previous week	Oct. 4-11, 1959	Oct. 5-12, 1958	Oct. 6-13, 1957	Oct. 9, 1960	Oct. 11, 1959
Northwest	118	114	110	116	109	10,611,812	10,621,021
Southwest	114	116	117	117	110	19,818,025	20,591,493
Buffalo	119	115	103	112	106	6,604,475	7,496,568
Central and S.E.	95	96	100	100	97	8,785,993	9,074,332
Pacific Coast	92	100	102	166	96	6,191,042	6,657,022
Totals	109	110	109	118	106	52,011,347	54,440,436

NORTHWEST

Minneapolis

	5-day week capacity	Flour output	% capacity
Oct. 2-9	240,000	270,938	113
Previous week	240,000	245,931	102
Year ago	231,000	245,271	106
Two years ago	237,000	235,255	99
Five-year average			48
Ten-year average			77

Principal interior mills in Minnesota, including Duluth, St. Paul, North Dakota, Montana and Iowa:

	5-day week capacity	Flour output	% capacity
Oct. 2-9	472,750	567,384	120
Previous week	472,750	569,091	120
Year ago	494,500	550,087	111
Two years ago	430,500	559,655	130
Five-year average			173
Ten-year average			149

CENTRAL AND SOUTHEASTERN

Mills in Illinois, Ohio, Michigan, Wisconsin, Indiana, Kentucky, North Carolina, Tennessee, Virginia, Georgia and eastern Missouri:

	5-day week capacity	Flour output	% capacity
Oct. 2-9	672,260	641,626	95
Previous week	672,260	645,573	96
Year ago	643,750	646,111	100
Two years ago	570,260	594,825	104
Five-year average			106
Ten-year average			107

SOUTHWEST

Kansas City

	5-day week capacity	Flour output	% capacity
Oct. 2-9	224,250	270,412	121
Previous week	224,250	281,395	125
Year ago	221,750	286,214	129
Two years ago	287,500	267,717	93
Five-year average			178
Ten-year average			154

Representative Mills, Outside of Kansas City (Including Wichita and Salina)

	5-day week capacity	Flour output	% capacity
Oct. 2-9	1,090,750	1,222,871	112
Previous week	1,090,750	1,241,398	114
Year ago	1,068,800	1,218,750	114
Two years ago	1,032,000	1,251,977	121
Five-year average			149
Ten-year average			130

BUFFALO

	5-day week capacity	Flour output	% capacity
Oct. 2-9	522,000	620,129	119
Previous week	522,000	602,078	115
Year ago	493,500	509,152	103
Two years ago	475,000	547,030	115
Five-year average			11
Ten-year average			71

Millfeed Production

Mills in the Northwest, Southwest and at Buffalo, representing 75% of the combined flour milling capacities of those areas, reported production of 55,699 tons of millfeed for Oct. 2-9 compared with an output of 53,015 in the corresponding week a year ago. Production for the previous week of Sept. 25-Oct. 2 was 55,476, compared to 50,031 in the corresponding week of last year.

PACIFIC COAST

Principal Mills on the Pacific Coast **California, Oregon and Washington Mills**

	5-day week capacity	Flour output	% capacity
Oct. 2-9	466,500	427,800	92
Previous week	466,500	467,599	100
Year ago	466,500	476,858	102
Two years ago	315,000	537,784	171

DURUM PRODUCTS OUTPUT

Durum products output of mills reporting to The Northwestern Miller, in sacks, based on five-day week:

	5-day wk. capacity	Wkly. production	% of capacity
Oct. 2-9	177,500	211,425	119
Previous week	177,500	209,951	119
Year ago	156,500	217,897	139

	Crop year production
July 1-Oct. 9, 1960	2,554,431
July 1-Oct. 11, 1959	2,641,973

The MILLER

points up

the FACTS

that MATTER

LEADING FLOUR IMPORTERS ABROAD

Many of the firms appearing in this list are available to handle the importation of other products besides flour. Some specialize additionally in cereals, some in bakers' sundries and others in feed grains and ingredients. Most of them have connections in adjacent countries and are equipped to handle both import and export business on an extensive basis. For a list of recommended firms dealing in specific commodities or in specific countries write to THE Northwestern MILLER, P.O. Box No. 67, Minneapolis 40, Minn., U.S.A.

ENGLAND

H. Cohen & Co., Ltd.
Hambro House, Vintners' Place
LONDON, E.C. 4
Cable Address: Bortrite, London

Mardorf, Peach & Co., Ltd.
52, Mark Lane LONDON, E.C. 3
Cable Address: "Dorfeach," London

Vaughan Thomas & Co., Ltd.
The Corn Exchange Building
52/57 Mark Lane LONDON, E.C. 3
Cable Address: "Avaumas," London

GERMANY

Einfuhrhandel Mannheim
Hans Werle
MANNHEIM/GERMANY, E2., 1-3
Cable Address: "Einfuhr" Telex 0463270

DENMARK

Brodr. Justesen
COPENHAGEN
Cable Address: "Justesens," Copenhagen

SCOTLAND

Farquhar Brothers
50 Wellington Street GLASGOW,C.2
Cable Address: "Glencairn," Glasgow

McConnell & Reid, Ltd.
19 Waterloo St. GLASGOW
Cable Address: "Marvel," Glasgow

D. T. Russell & Baird, Ltd.
106 Hope Street GLASGOW,C.2

HOLLAND

Bulsing & Heslenfeld N. V.
Established 1885
Damrak 20-22
AMSTERDAM (C)
Cable Address: "Heslenfeld," Amsterdam

STOLP & CO., LTD.
47-48 Damrak AMSTERDAM
Cable Address: "Cleo"

Gebrs. Van Den Bergh's N. V.
ROTTERDAM
Cables: Locomotion Rotterdam

N. V.
Algemeene Handel-en Industrie Maatschappy
"MEELUNIE"
Heerengracht 209 AMSTERDAM

N. V. Agentuur & Commissiehandel
v/h P. C. Vis & Co.
AMSTERDAM
Cable Address: "Visco"

Luchsinger, Meurs & Co.'s
Handelsmaatschappij, N.V.
AMSTERDAM—C.
Cable Address: "Matluch"

M. WITSENBURG JR. N. V.
Postbox 945 AMSTERDAM C.
Cable Address: "Witburg"

GRIPPELING & VERKLEY N. V.
Flour Specialists Since 1889
AMSTERDAM
Cable Address: Bygrip, Amsterdam

Millers in 44 Overseas Nations Read Every Issue of the Miller

TICKER REPORT...

THE NEW YORK STOCK EXCHANGE

Quotations on baking, milling and allied stocks listed on the New York Stock Exchange:

	1960 High	1960 Low	Oct. 3, 1960 Close	Oct. 10, 1960 Close
Allied Mills, Inc.	37½	37	37	37
Allis-Chalmers	24¾	24⅜	24⅜	24¾
American Bakeries Co.	40⅛	39⅜	40	40⅛
American Cyanamid	45½	44⅛	45½	44⅛
Archer-Daniels-Midland Co.	31⅜	31	31⅛	31⅛
Borden	49⅞	49⅛	49⅛	49⅞
Continental Baking Co.	40½	39⅜	39⅜	40½
Corn Products Refining Co.	63½	61¾	61¾	63
Crown Zellerbach Corp.	44⅛	43	44⅛	43
Dow Chemical	76⅛	73¼	73¼	75¾
General Baking Co.	9⅝	9½	9⅝	9⅝
General Foods Corp.	65⅛	63⅞	63⅞	64½
General Mills, Inc.	28	27	28	27½
Pfd. 5%	107	107	....	107
Merck & Co.	80¾	80	80	80⅜
Monsanto Chemical Co.	37⅞	36½	36½	37⅝
National Biscuit Co.	65½	64	64	65½
Pfd. $7	152	151	151¾	151
Pfizer, Chas.	29⅜	28½	28¾	29⅛
Pillsbury Co.	38⅜	37⅝	37⅞	37⅝
Procter & Gamble	122½	113	113	121
Quaker Oats Co.	59	57¼	57¼	59
St. Regis Paper Co.	32⅛	31¼	31⅝	31¾
Standard Brands, Inc.	44¾	43⅛	43⅛	44½
Sterling Drug	54⅝	53¾	54⅛	54
United Biscuit of America	36¾	36¼	36¼	36¾
Victor Chemical Works	111¾	108	108	111½
Ward Baking Co., $5.50 Pfd.	83¼	83¼	....	83¼
West Virginia Pulp & Paper Co.	37½	35¼	37½	35¼

Stocks not traded:

	Bid	Asked
Continental Baking Co., $5.50 Pfd.	101¼	102
Corn Products Refining Co., $7 Pfd.	87	90
Cream of Wheat	35	35½
Crown Zellerbach Corp., $4.20 Pfd.	91	93
General Baking Co., $8 Pfd.	139	140½
Merck & Co., $3.50 Pfd.	77	81
Pfizer, Chas., Pfd.	98	98½
Pillsbury Co., $4 Pfd.	93	95½
Quaker Oats, $6 Pfd.	131⅛	132
St. Regis Paper Co., $4.40 Pfd.	92	95
Standard Brands, Inc., $4.50 Pfd.	74	75
United Biscuit of America, $4.50 Pfd.	94	99
Ward Baking Co., $5.50 Pfd.	11	11⅜
West Virginia Pulp & Paper Co., Pfd.	96	97½

THE AMERICAN STOCK EXCHANGE

Quotations on baking, milling and allied stocks listed on the American Stock Exchange:

	1960 High	1960 Low	Oct. 3, 1960 Close	Oct. 10, 1960 Close
Burry Biscuit Corp.	14⅜	14	14⅜	14
Horn & Hardart Corp. of N. Y.	36½	35	35	36½

Stocks not traded:

	Bid	Asked
Horn & Hardart Corp. of N. Y., $5 Pfd.	98	99
Horn & Hardart Corp. of N. Y., $8 Pfd.	122½	125½
Wagner Baking Co.	3½	3⅝
Wagner Baking Co., Pfd.	71	80

CANADIAN STOCKS

	1960 High	1960 Low	Sept. 23, 1960 Close	Oct. 7, 1960 Close
Canada Bread	4.15	3.50	3.60	3.60
Pfd. B	52	49⅝	50	50
Can. Bakeries	7	6	6	6
Can. Food Prod., A	15	6½	13	13
Pfd.	80⅛	45⅛	80	75
Catelli Food, A	40⅛	38	40⅛	*41
Cons. Bakeries	9	7¾	7⅝	8
Dover Ind.	13½	10⅞	12	10⅞
Pfd.	9	9	*10	*10
Federal Grain	48	39	47	47
Pfd.	27½	25½	27	27
General Bakeries	9	6⅞	7½	7⅛
Lake of the Woods, Pfd.	130⅝	113	....	130⅝
Maple Leaf Mlg.	16	11¼	15	15
Pfd.	95	85	90	94
Ogilvie Flour	46½	40	44	44¼
Pfd.	140	125	128	134
Toronto Elevators	13	9	10¼	11
Weston, G., A	38⅛	29	36	36¼
B	38¾	28½	36½	36¾

*Less than board lot.

There is a lot to be said for
GOOD JUDGMENT

Good judgment has guided Ogilvie Flour Mills for more than a century and a half of leadership in the milling of fine flour. It's good judgment that causes Ogilvie to select only the choicest wheat . . . that combines their skill and knowledge with some of the most modern milling equipment in the world, to produce the unvarying high quality that their customers expect of the name "Ogilvie".

Ogilvie Flour Mills intend to continue using good judgment . . . the same good judgment that tells you it's wise to buy quality!

Manufacturers of Ogilvie Flour—Ogilvie Ready Mixes —Ogilvie Vita-B Wheat Germ Cereal—Ogilvie Oats —Ogilvie "Miracle" Feeds for livestock and poultry.

THE OGILVIE FLOUR MILLS CO., LIMITED

Mills at: Montreal—Fort William—Winnipeg—Medicine Hat—Edmonton
Cable Address: OGILVIE MONTREAL—all codes used

Flaming Disaster at Port Colborne

Spectacular Fire at Maple Leaf's Mill — Flames Leap High, Illuminating Scene of Multi-Million-Dollar Holocaust

In what is perhaps the biggest single mill disaster of this century, the Port Colborne mill of the Maple Leaf Milling Co., Ltd., went up in flames Oct. 7 and was completely gutted. Damage estimates range up to $10 million, but may be more when the final assessments are in, company officials say.

An explosion in the bleach room is considered to have sparked the blaze which ripped through the mammoth building—the largest flour mill in the British Commonwealth. Besides the 26,000 cwt. milling plant, a rye mill and a feed manufacturing facility were lost in the blaze. Also destroyed was the plant of the Ontario Bag Co., a subsidiary of Maple Leaf. The elevator remained standing, but the interior was almost entirely gutted.

Louis Barnarva, 24, died of his injuries in a Toronto hospital Oct. 9 and Manuel Rodriguez, 27, was critically burned. Six other operatives suffered burns over 20 to 50% of their bodies.

About 30 employees were on duty in the mill when the fire started about 8 p.m. Fire fighting equipment was rushed from the surrounding towns and the Edward M. Cotter, a fireboat came up from Buffalo. The buildings stand on a narrow tongue of land with the Welland Ship Canal on one side and a loading bay on the other. The fireboat worked from the bay and played a major part in checking the flames in the elevator. It also prevented the flames from spreading to the adjacent 3 million bushel National Harbor Board elevator.

Attempts are being made to clear 13,000 bu. of damaged grain in the elevator.

The mill had a sprinkler system, but a fire official said that the initial explosion which rocked the building probably damaged some of the sprinkler heads, making them inoperative. In any event, the water pressure spread over all the sprinklers would be low and the fire too great for the sprinklers to beat.

The mill was built in 1910, with considerable wood construction, and the blaze continued throughout the night. The flames were visible for a distance of over 30 miles, observers report.

Cover Story

Though the mill has a rated capacity of 26,000 cwt. flour, it has been operated at only half that level in recent years. Last year an extensive and highly successful modernization program was completed using machinery manufactured by Henry Simon, Ltd. This increased the efficiency of the mill considerably and the capacity of the operational unit was rated at 12,500 cwt.

The cutback in usage of the available capacity was necessitated mainly by the decline in the export flour market. But in its heyday, the plant produced thousands of hundredweights of flour for overseas, particularly during the World Wars.

An experienced miller from a competing company who recently visited the plant described it as one of the best kept he had ever seen. He praised the layout and said that the housekeeping practices were of the highest order.

Most of the mill's 350 employees will have to be laid off, but key personnel will be transferred to the company's other plants throughout Canada.

Clifford E. Soward, president, says the company was adequately covered by fire and business interruption insurance.

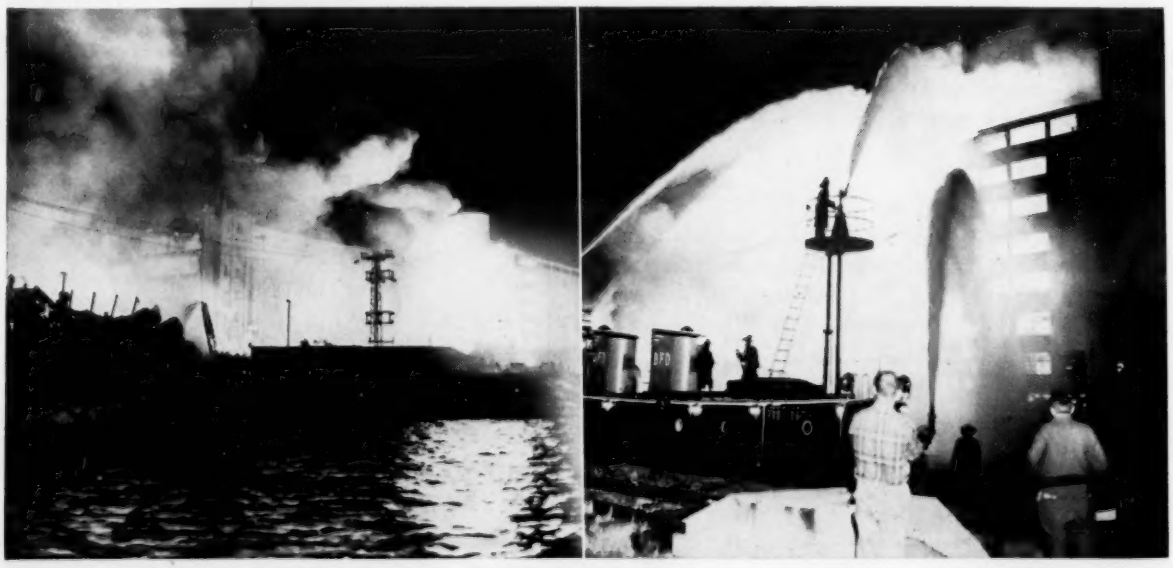
• • •

Rebuilding Set for Port Colborne Now, At Montreal Later

Plans for a rebuilding program have already been formulated by company officials.

Immediate action will be the building of a new mill at Port Colborne, and this will be considerably smaller than the old plant. Later, it is planned to build a mill at Montreal in the province of Quebec.

Current plans call for the spending



of around $4 million on the new Port Colborne mill and this suggests a plant in the region of 6,000 to 7,000 cwt. capacity, basis 24 hours of working. Some laid off employees may be used on the construction work and about half of them will find jobs in the new mill, it is hoped.

Mr. Soward comments that after rebuilding the company should emerge stronger than ever before. The mammoth Port Colborne mill, he explains, was uneconomic in relation to its size and location.

The new mill, with work slated to begin almost at once, should be ready for operation within a year. Top milling engineers have already been called in for consultation and planning.

The plan to build a new mill in Montreal was not unexpected by the trade. It is known that Maple Leaf has long felt the need for facilities in the area. Increases in freight rates and the impact of the St. Lawrence Seaway have squeezed Ontario flour out of the Quebec market where the company has always enjoyed extensive business. Mr. Soward explains that the company, for some time, has had a reciprocal agreement with a Montreal miller whereby each company mills at market for the other.

BIGGEST DISASTER?

European millers, now working in Canada, compare the Maple Leaf Mill disaster with those experienced in Europe during World War II. Many of them went through bombing raids and they say the Port Colborne explosion and fire was bigger than any single air attack on any mill in any country during the war.

Maple Leaf Technical Personnel Among Top Leaders in Industry

Observers forecast that the two new mills will contain many innovations in milling techniques.

Maple Leaf employs some of the top technical brains in the North American flour trade and is a frontrunner in the field of technical development and research. Stuart Butler, well known to members of the Association of Operative Millers as their current president, is a key official in this department. So is another former AOM president, Ralph Bouskill. The Maple Leaf organization, which is made up of that company and the old Purity Flour Mills-Western Canada Flour Mills group, also provided another president for AOM, the retired Joseph Chamberlain.

Mr. Soward is currently president of the Canadian National Millers Assn. and many other Maple Leaf officials have played an active part in national flour trade affairs. The director of exports, vice president John L. Cavanagh, perhaps the best known export man in the world, is a former chairman of the Canadian Flour Export Committee.

• • •

Structure Changes

Maple Leaf, until this disaster, was the biggest milling company in Canada in terms of **potential** capacity with a total of 51,145 cwt., basis 24 hours of working.

Ogilvie Flour Mills Co., Ltd., has a potential of 38,200; Robin Hood Flour Mills, Ltd., 37,200 and Pillsbury Canada, Ltd., 15,000 cwt. according to The Miller's List of Flour Mills in the U.S. and Canada.

With the loss of Port Colborne, Maple Leaf's potential capacity drops to 25,145 cwt. However, if the two new mills have a capacity of 7,000 cwt. each—and this is by no means certain because officials have not revealed their capacity plans — Maple Leaf would move back into first position with a total of 39,145 cwt.

Maple Leaf's other plants are located at Calgary and Medicine Hat, Alta.; St. Boniface, Man. ,and Toronto, Ont. Headquarters of the company are located at Toronto and offices are maintained across Canada.

The largest **operating** mill in Canada is the Ogilvie Royal Mills plant at Montreal with a total capacity of 15,500 cwt. «

Fort Garry Milling

Company Limited

MILL AT SASKATOON, SASK., CANADA

SALES OFFICE
BOX 8505
MONTREAL, CANADA

Cable Address: "FORTGARRY"
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QUALITY UNIFORMLY MAINTAINED SINCE 1887

Lake of the Woods Milling Co. Limited

Cable Address
"HASTINGS"
Montreal

ALL
CABLE CODES
USED

Makers of CANADIAN HARD SPRING WHEAT *Flour*

Mills at
Montreal, Keewatin, Winnipeg, Medicine Hat

HEAD OFFICE: MONTREAL WESTERN OFFICE: WINNIPEG

Spring Wheat Crop Report Holds No Surprises

But a Little Digging Yields Some Interesting Comparisons

By F. C. Bisson
Special Correspondent

The latest government crop estimate for spring wheat carries no surprises. In fact, it dovetails very closely with the official U.S. Department of Agriculture's report made a month earlier. But the market observer—willing to take his pencil in hand—can make some significant comparisons down the line.

F. C. Bisson

The current USDA estimate shows 215,468,000 bu. bread wheat compared with 215,509,000 bu. a month earlier. As for durum, it holds forth a crop of 36,155,000 bu. against 35,592,000 bu. on Sept. 1.

It's interesting to note that the USDA compilation ran about 9 million bushels under the one made by C. M. Galvin, statistician for Francis I. DuPont & Co. for the first category but exceeded the Galvin report by about 750,000 bu. on durum wheat.

Let's consider the bread wheat category for a while:

This year's crop is almost 20% larger than in 1959, but it does not measure up to the 10-year average; in fact, it misses it by some 7%. The yield figure of 20.4 bushels to the acre—while not a record—is the second best, and very much in contrast with the 1959 outturn of only 16.3 bu.

Spring Wheat (Bread)

(Bushels, Final 000 Omitted)

	Galvin	U.S. Crop Reporting Board			
	10/1/60	10/1/60	9/1/60	Final 1959	1949-58 Avge.
Minn.	24,408	24,408	25,312	22,128	15,064
No. Dak	109,557	104,340	104,340	79,634	93,563
So. Dak	28,854	26,450	25,648	10,830	26,651
Mont.	31,911	30,944	30,944	33,785	50,734
Idaho	18,354	18,354	18,354	20,828	21,372
Wash.	3,132	3,190	3,016	7,998	11,036
Ore.	2,813	2,716	2,716	2,940	4,847
Sub Total	219,029	210,402	210,330	178,143	223,267
Others	5,186	5,066	5,179	5,877	8,043
Total	224,215	215,468	215,509	184,020	231,310

Durum Wheat

(Bushels, Final 000 Omitted)

	Galvin	U.S. Crop Reporting Board			
	10/1/60	10/1/60	9/1/60	Final 1959	1949-58 Avge.
Minn.	852	837	837	585	782
No. Dak.	28,371	29,046	28,371	17,518	20,802
So. Dak	2,072	2,128	2,128	624	2,133
Mont.	4,032	4,144	4,256	1,955	4,694
Total	35,327	36,155	35,592	20,682	30,411

Northwest Area

In the Northwest area, where the bulk of the spring wheat is grown, the crop suffered in Montana and South Dakota. But, on the basis of later returns, the crop showed improvement in these same two states over the month previous.

Because the harvest has been completed weeks ago, to all intents and purposes the current bushelage report probably will stand unchallenged when the final countdown is made and complete figures for the season are released in mid-December.

Durum Situation

As for that USDA durum figure of 36,155,000 bu., if the crop had been about 5 million bushels larger it would have bulked to twice the size of last year's crop. Admittedly, however, the 1959 production of durum wheat does not constitute a very fair measuring stick. Even the 10-year average fails to make a very imposing figure at 27,063,000 bu.

It is well to note, however, that the yield per acre of durum this year, at 21 bu., showed a gain of .3 of a bushel during September. And added to this is the fact that the yield is four full bushels to the acre above last

Statement required by the Act of Aug. 24, 1912, as amended by the Acts of March 3, 1933, July 2, 1946, and June 11, 1960 (74 Stat. 208) showing the ownership, management, and circulation of The Northwestern Miller, published biweekly at Minneapolis, Minn., for Oct. 3, 1960. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The Miller Publishing Co., Minneapolis, Minn.; Editor, George E. Swarbreck, Minneapolis, Minn.; Managing Editor, Kenneth W. Wakershauser, Minneapolis, Minn.; Business Manager, Wilfred E. Lingren, Minneapolis, Minn. 2. The owner is: The Miller Publishing Co., Minneapolis, Minn., principal stockholders of which are: Paul A. Anderson, Minneapolis, Minn.; Paul L. Dittemore, Glenbrook, Conn.; First National Bank of Minneapolis, Minneapolis, Minn.; Thomas A. Griffin, Minneapolis, Minn.; Robert M. Harrison, Mt. Morris, Ill.; Milton B. Kihlstrum, Minneapolis, Minn.; Wilfred E. Lingren, Minneapolis, Minn.; Evelyn B. Martin, Long Island, N. Y.; Sarah S. Michener, Minneapolis, Minn.; H. J. Pattridge, Minneapolis, Minn.; J. G. Pattridge, Minneapolis, Minn.; Dorothy Beatty Pratt, Minneapolis, Minn.; Don E. Rogers, Chicago, Ill.; Rebekah S. West, St. Louis, Mo.; Mrs. H. E. Yantis, Minneapolis, Minn. 3. The known bondholders, mortgagees, and other security holders owning or holding 1% or more of total amount of bonds, mortgages or other securities are: None. 4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. 5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 3,260. Wilfred E. Lingren, Business Manager. Sworn to and subscribed before me this 27th day of September, 1960. J. G. Pattridge, Notary Public, Hennepin County, Minn. My commission expires March 17, 1964. (Seal.)

year's figure and the 10-year average.

As a sidelight, while production of bread wheat has been rising almost year by year, production of durum wheat has been falling by the wayside.

Thumbing back through some old records on this subject we find that back in 1928, when 820 million bushels was an excellent figure for all bread wheat, the U.S. actually raised 95,266,000 bu. durum. In the intervening years, while bread wheat bushelage has risen 70%, what has happened to durum?

Its production has been decreased just about 60%!«

PISTOL PACKIN' Mama had nothing on this Cree Indian woman at the annual Flin Flon trout festival held each year about 500 miles northwest of Winnipeg on the Manitoba-Saskatchewan boundary. One annual feature is the flour packing contest. This woman is toting 300 lb. of flour. Her reward—she keeps all the flour she can carry.

Charles Ritz Marks End of 50th Year Of Service with Milling Industry

Take the popular measure of any man, sift out the myth and fanciful, scrutinize the clean grain which remains, and you'll have a close view of his permanent niche in history.

Charles Ritz

In the case of Charles Ritz, dynamic board chairman of the International Milling Co., the view will be an exciting one, filled with mementos of a robust, active, seeker's career. And the niche will be broad and deep.

The energetic Mr. Ritz has just hewed his place in the history of flour milling a bit wider by rounding out a full half century with International —no small feat—particularly in an industry which requires such rugged, alert and fast-paced individualism. As for Mr. Ritz, he has spent 50 years "measuring up" to the industry and its demands. And the vote is unanimous that he has made it in full measure. His golden anniversary with International also makes Mr. Ritz the firm's staff member with the longest record of service.

'An Early Start'

His career, which started in the flax fields at 25¢ a day while he was still a boy, has developed, expanded, moved into ever greater fields of responsibilities, in the classic storybook fashion—with one difference. In Mr. Ritz's case the story is bedrock and factual.

He entered the flour milling business as a stenographer, on the advice of a brother, in 1910, at the Moose Jaw mill of Robin Hood Flour Mills, Ltd. Eternally a salesman, he applied energy, imagination and a zest for business to his activities, picking up additional training, techniques and methods as he found it necessary to do so.

In two years Mr. Ritz had developed sufficient talent to become sales manager of the company's Calgary mill—another two years saw him manager for eastern Canada—at the age of 23.

He set up Robin Hood headquarters in Montreal in 1915 and in 1931 became general manager of all Canadian operations.

In 1934 Mr. Ritz became a member of the board of International, which brought advancement to vice president three years later and a succession of other changes. Minneapolis became his home, while his sphere of authority was broadened to encompass both Canada and the U.S.

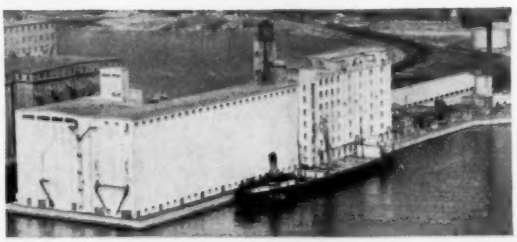
The scope of his activities from that point on already is duly recorded in the annals of industry history, the presidency of Robin Hood in Canada, executive vice president of International, then president of the firm, and a position as board chairman in 1955.

Entwined with Mr. Ritz's business background is a kaleidoscope of service to the Millers National Federation,

Maple Leaf Milling Co. Limited.

TORONTO, CANADA

CABLE ADDRESS
"MAPLEFLOUR"



"A Seat on the Aisle"

All Seaway traffic passes Canada's largest flour mill, the Maple Leaf mill at Port Colborne, situated at the Western entrance to the Welland Canal.

MILLS & FEED PLANTS LOCATED—

Montreal • Toronto • Goderich • Port Colborne
Winnipeg • Medicine Hat • Calgary • New Westminster

Radio Free Europe, extensive travel and a varied career in athletics.

To round out the portrait, Mr. Ritz is the only survivor of a group of 25 Canadian millers who founded the Canadian National Millers Assn. in 1920. «

AOM TO ASSIST WITH K-STATE MILLSTONES

Kansas State University has two millstones that hark back to about 1850 and an early mill at Rocky Ford, Kansas, adjacent to the present university site. Dr. John A. Shellenberger, head of the Department of Flour and Feed Milling Industries, envisioned them as part of the landscaping of the new milling school, but found the cost prohibitive. Voicing his problem at the millers' advisory council meeting, Donald S. Eber quickly solved the problem. The "old grinders" will grace the entrance to the new milling technology building, courtesy of the Association of Operative Millers.

K-State Advisory Council Seeks More Help of Industries Served

By GEORGE W. POTTS
Northwestern Miller Staff

The millers' advisory council to Kansas State University is exploring the possibility of establishing an overall industry committee of wheat farmers, the grain trade, milling industry, baking industry, feed industry and allied trades to act in an advisory capacity to K-State.

Under the proposed plan, the augmented committee would broaden the base of the educational potential of the current milling technology department by providing additional counsel from these groups relative to curriculum and student recruitment.

The plan was discussed by members of the millers' advisory committee at a meeting in Manhattan, Kansas, Oct. 12.

Recommended action called for the committee chairman, R. B. Laing, Abilene (Kansas) Flour Mills Co., to appoint a small working committee composed of representatives of the individual groups to work out all necessary details. The new committee would then be in charge of the entire program and decide on the breakdown and memberships of sub-committees.

Equipment Report

J. C. McNeil, the Pillsbury Co., Minneapolis, chairman of the equipment procurement committee, reported that equipment valued at more than $200,000 has been donated, with approximately 25% on hand, a considerable amount nearby, and foreign-made equipment to arrive by December.

He stated that the equipment includes 9 stands of rolls, 5 sifters and 4 purifiers. He pointed to the continued need for bins for wheat, and electric equipment. He noted that the need for motors and drives actually was not known at the present time as some machinery comes fully equipped.

Dr. John A. Shellenberger, head of the Department of Flour and Feed Milling Industries at K-State, reported

MARKET QUOTATIONS AT A GLANCE

FLOUR

October 12 Quotations, Based on Carlots, Prompt Delivery

	Kansas City Hard Winter	Minneapolis Spring	Buffalo Spring	Chicago	New York	Seattle
Bakery short patent	$5.20@5.35	$5.42@5.52	$5.96@6.21	$...@...	$...@...	$...@...
Bakery standard patent	5.15@5.25	5.32@5.42	5.86@6.11	...@...	...@...	...@...
First clear	...@...	4.70@4.95	5.25@5.54	...@...	...@...	...@...
High gluten flour	...@...	5.67@5.77	6.21@6.46	...@...	...@...	...@...
*Family flour	6.15@6.90	...@6.90	...@6.90	...@...	...@...	...@5.10
*Bakers fancy cake flour	...@...	...@...	...@...	...@...	...@7.70	...@...
*Pastry	...@...	...@...	...@...	...@...	...@...	...@5.13
**Straight grade cracker flour	...@...	...@...	...@...	...@5.20	...@...	...@...
Rye flour, white	...@...	...@4.13	...@...	**4.49@4.65	...@...	...@...
Rye flour, medium	...@...	...@3.93	...@...	**4.39@4.45	...@...	...@...
Rye flour, dark	...@...	...@3.38	...@...	**3.82@3.90	...@...	...@...
Semolina blend	...@...	...@6.05	...@...	...@...	...@...	...@...

	Toronto	Winnipeg
Spring top patent	*$6.40@6.55	$6.20@6.35
Bakers	**4.95@5.15	4.75@4.95

MILLFEED

October 12 Quotations, Based on Carlots, Prompt Delivery

	Minneapolis		Kansas City		Chicago		Seattle	
	Sacked	Bulk	Sacked	Bulk	Sacked	Bulk	Sacked	Bulk
Bran	$34.00@34.50	$30.00@30.50	$34.00@34.50	$31.00@31.50	$35.00@35.50	$30.00@30.50	$...@...	$...@...
Standard midds.	33.50@35.00	30.00@31.00	...@...	31.50@32.00	36.50@37.00	31.50@32.00	...@50.00	...@47.00
Red dog	41.00@42.50	...@...	...@...	...@...	...@...	...@...	...@...	...@...
Shorts	...@...	...@...	34.00@34.50	31.50@32.00	...@...	...@...	...@...	...@...
Wheat millrun	...@...	...@...	...@...	...@...	...@...	...@...	...@41.00	...@38.00

	Bran	Shorts	Middlings
Toronto*	$52.00@53.00	$53.00@54.00	$56.00@57.00

*Flour and millfeed prices 100 lb. cottons.
**Flour and millfeed prices 100 lb. papers.

that total cash now pledged exceeded $200,000. Steve Vesecky, Campbell-Taggart Associated Bakeries, Inc., Dallas, noted that pledges from bakers now totalled an additional $35,425, with many bakers and allied firms unsolicited or not heard from to date.

Following the luncheon session, Prof. Eugene P. Farrell, milling technology staff, acted as guide for the group in a tour of the school now nearing completion.

Part of the discussion at the meeting centered around plans for formal dedication of the new school of milling technology.

Committees Meet

The individual committees met separately during the course of the day's conference and presented brief reports later. Donald S. Eber, executive vice president of the Association of Operative Millers, reporting for the millers' short course committee, recommended a three-day course aimed at management and superintendents to focus on the importance of the milling school and what it can do as an introduction to a month's course to follow. It was further recommended that this be brought to the attention of cereal chemists and the grain trade.

The student recruitment committee, under the direction of Earl F. Cross, Colorado Milling & Elevator Co., Denver, pointed up the need for contacting eligible students and proper use of the new brochure, scheduled to be off the press soon, in encouraging potential high school students.

In a discussion of the scholarship situation it was again noted that scholarships were available but not currently being used. It was recommended that the scholarship program be reconsidered in the light of today's costs and needs. «

September Production Of Flour 21,194,869 Cwt.

U.S. wheat flour production for September, at 21,194,869 cwt. as estimated by THE Northwestern MILLER, tumbled slightly from August. Daily grind, however, at 1,009,279, showed a healthy jump, due mainly to the shorter grinding period in September (21 days).

Compared with the Bureau of the Census official figure of 22,009,000 cwt. of total output for August, the month of September dipped 3.7%, or down 814,131 cwt.

September's daily average production of 1,009,279 cwt., however, rose 5.5%, or 52,279 cwt. over the August census bureau daily output of 957,000 cwt. August, by contrast, had 23 operating days compared with the 21 days for September.

Compared with a year ago, September's total production of 21,194,869 cwt. was down .8%, or 175,131 cwt. The official offtake for September of 1959 was reported at 21,370,000 cwt.

The current September's daily offtake dipped .9% from the 1959 figure of 1,018,000 cwt., equivalent to a decline of 8,721 cwt. September of 1959 had 21 working days. «

CLASSIFIED DEPARTMENT

Advertisements in this department are 20¢ per word; minimum charge, $3.00. (Count six words for signature.) Add 25¢ per insertion for forwarding of replies if keyed to office of publication. Situations Wanted advertisements will be accepted for 15¢ per word, $2.25 minimum. Add 25¢ per insertion for keyed replies. Display Want Ads $20 per inch per insertion. All Want Ads cash with order.

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HELP WANTED

INDUSTRIAL ENGINEER — EXPERIENCED IN methods, time and motion in grain milling industry, preferably oat milling. Address Ad No. 6273, The Northwestern Miller, Minneapolis 40, Minn.

NEW OFFICERS of the allied trades, District 4, Association of Operative Millers, were duly inducted at their annual meeting in Minneapolis. Ready to "take off" on another year of activity are, left to right: M. L. Olson, Simon-Carter Co., the new chairman; Dave Tellett, Allis-Chalmers Manufacturing Co., who moves up from secretary to vice chairman; Ken W. Wakershauser, THE Northwestern MILLER, who replaces Mr. Tellett as secretary, and B. Wayne Carmichael, Merck & Co., Inc., retiring chairman, who is presenting the gavel of office to Mr. Olson. Lyle Carmony, Sterwin Chemicals, Inc., not pictured, was elected treasurer.

U.S. WHEAT FLOUR PRODUCTION SEPTEMBER, 1960

Mills reporting to THE Northwestern MILLER account for approximately 78.2% of the total U.S. flour output. Figures for Buffalo, Kansas City and Minneapolis represent 100% of production of those points in hundredweights.

Minneapolis	1,013,389
Interior Northwest	2,552,158
NORTHWEST	3,565,547
Kansas City	1,151,116
Interior Southwest	5,301,621
SOUTHWEST	6,452,937
BUFFALO	1,678,909
CENTRAL & SO. EAST	2,797,860
NO. PACIFIC COAST	2,079,135
TOTAL	16,574,388
Adjusted	78.2
U.S. Total	21,194,869
Daily Average	1,009,279

Bureau of Census reported 22,009,000 sacks (957,000 daily) for August, 1960.
Bureau of Census reported 21,370,000 sacks (1,018,000 daily) for September, 1959.

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GRIST of GRINS

Sending them up in rockets seems a rather expensive way to get rid of mice.

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The sale seemed assured and the diplomatic salesman was beginning tactfully to remind the prospect that the special engine involved an additional charge. Likewise the highflared fenders, concaved doors, vented hood, grooved top and gold-chrome grill, all were optional at extra cost.

"I won't stand for it!" fumed the prospect. "Can't you just sell me the car without all those extras?"

"Certainly," beamed the salesman. "Where do you want the doorhandles delivered?"

◆ ◆ ◆

Into a saloon came a fellow leading a horse. "Gimme a slug of rye, for my friend here," he says.

The barkeeper obliged, and the fellow opened the horse's mouth, slung in the jolt, and ordered another which went the same way.

"What aboutchaself?" asked the nosepaint artist. "Ain'tcha gonna have anything?"

"Not me," says the horse's owner, mounting the animal and heading it out of the saloon. "I'm driving."

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Famous Last Words

"Husband to wife: 'I said we're not going out tonight, and that's semi-final.' "

◆ ◆ ◆

Wee Willie Degan loved his game of golf, but one bright sunny day his friends saw him sitting disconsolately in the club house, his clubs nowhere in sight. "Why aren't you out playing, Willie?" asked a friend.

"Ah, I nae can play agin," sighed Willie.

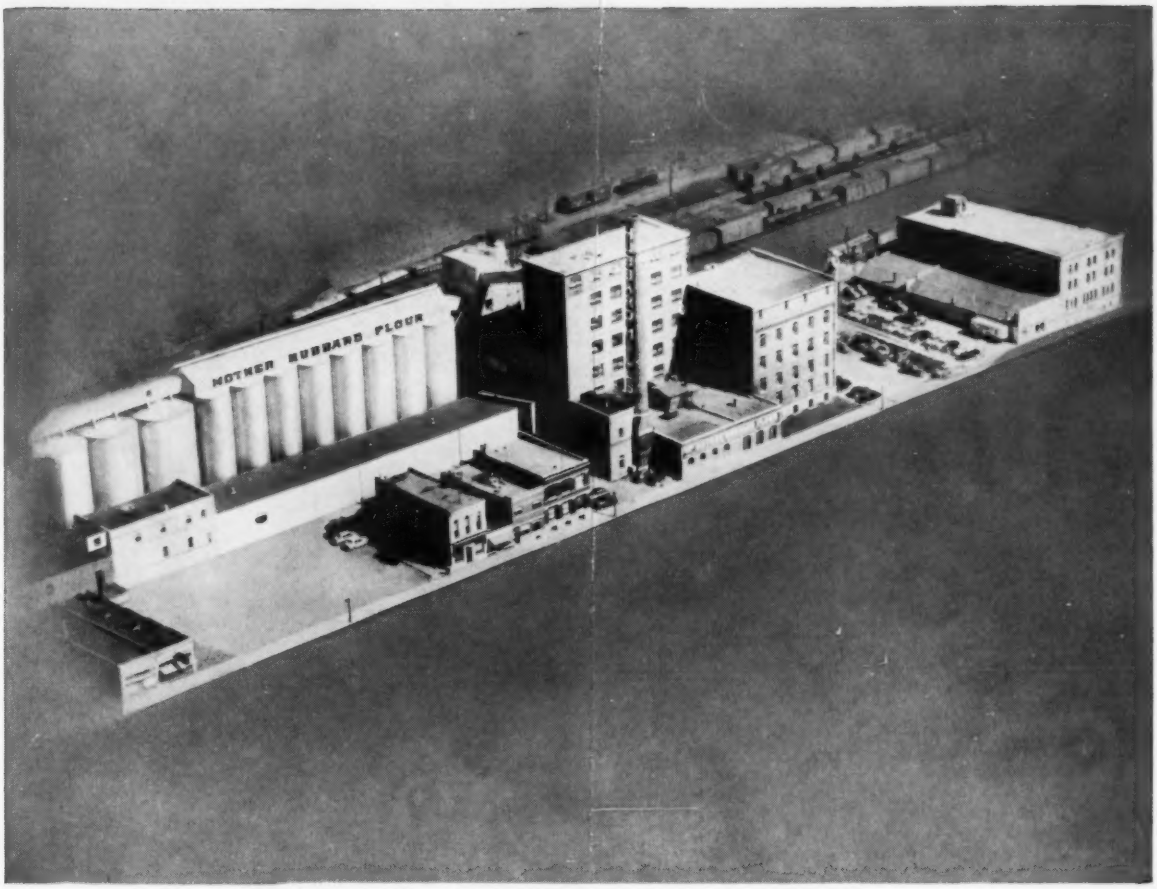
"Why not?" asked the friend.

"Ah," said Willie, "I lost me ball."

◆ ◆ ◆

"Hey," cried Satan to a new arrival, "you act as if you owned this place!"

"I do," came the reply. "My wife gave it to me before I came."



Hubbard Milling Co., Mankato, Minnesota 3000 sacks capacity—mill elevator storage, 500,000 bu.

Mill employee setting single control of Dyox machine for maturing flour.

HUBBARD MILLING CO. KEEPS CUPBOARDS FILLED WITH THE HELP OF

W&T Flour Treatment

Hubbard Milling Co. uses dependable Wallace and Tiernan processes and equipments to send a steady flow of fine flour products to its customers. This mill knows the benefits of doing business with a firm of single-line responsibility — with manufacture, sales, and service under one roof.

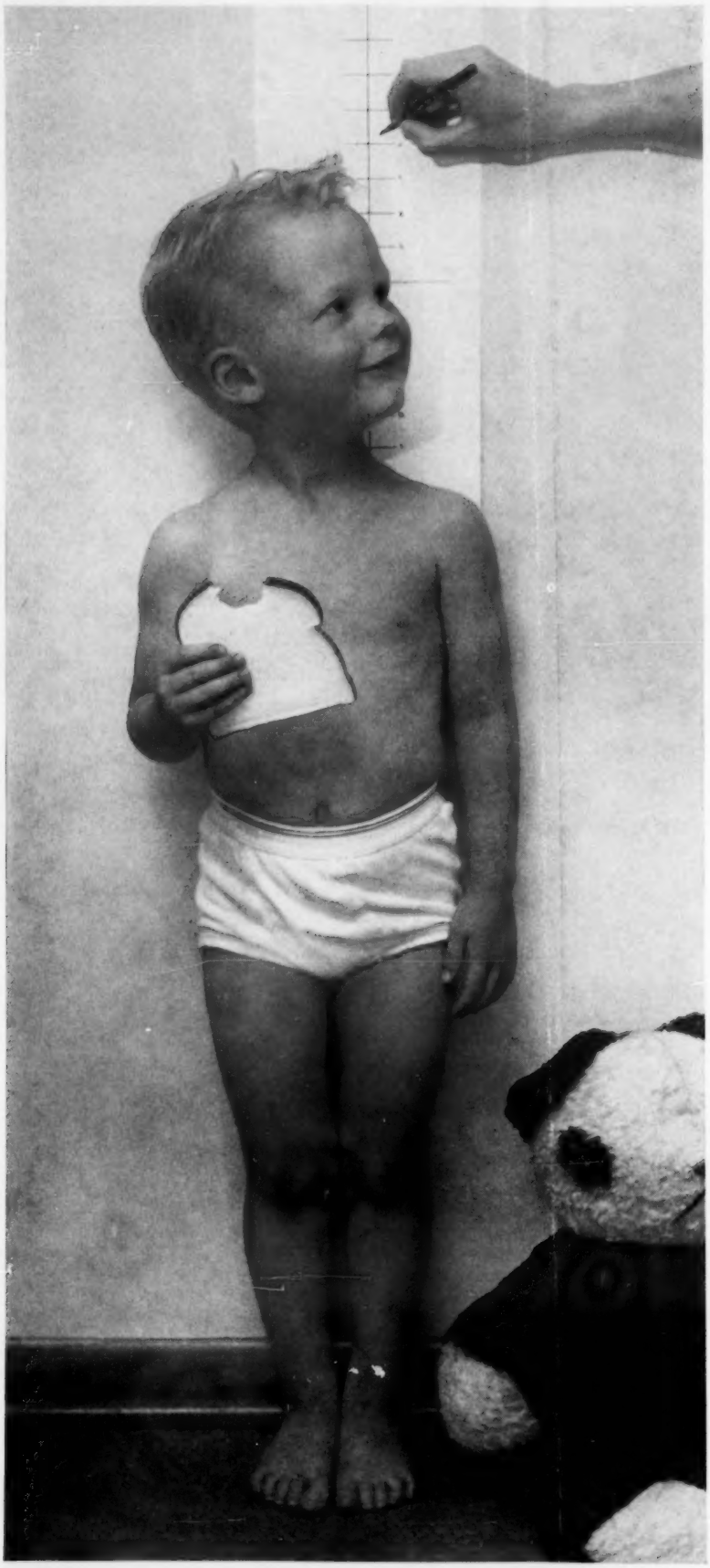
At Hubbard Milling the W&T Dyox® Process is used to generate and apply chlorine dioxide gas accurately and uniformly... matures the flour for best performance in bread baking.

Novadelox®, chosen for its bleaching efficiency, is fed through mill-proved NA Feeders for peak color removal and best color dress. Similar feeders apply "N-RICHMENT-A"® for the addition of vitamins and minerals.

Hubbard Milling Co. is only one of the many milling companies using W&T Flour treatment. If your mill is not one of these, investigate the advantages of Wallace & Tiernan's complete flour service.

NOVADEL FLOUR SERVICE DIVISION
WALLACE & TIERNAN INCORPORATED
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY
REPRESENTATIVES IN PRINCIPAL CITIES

N-115.44



Look who's growing!

You can almost see him shoot up . . . and you can see one of the reasons for his sturdy, healthy growth. He gets the best bread the world has ever known—and that covers a lot of territory.

Because bread has been literally the staff of life for nations, ever since civilization began.

Today's excellent bread . . . smooth-textured, light and vitamin-enriched, is due to the honest efforts and high standards of both bakers and millers.

And General Mills is proud to be one of these.

Good eating will always begin with bread

General Mills